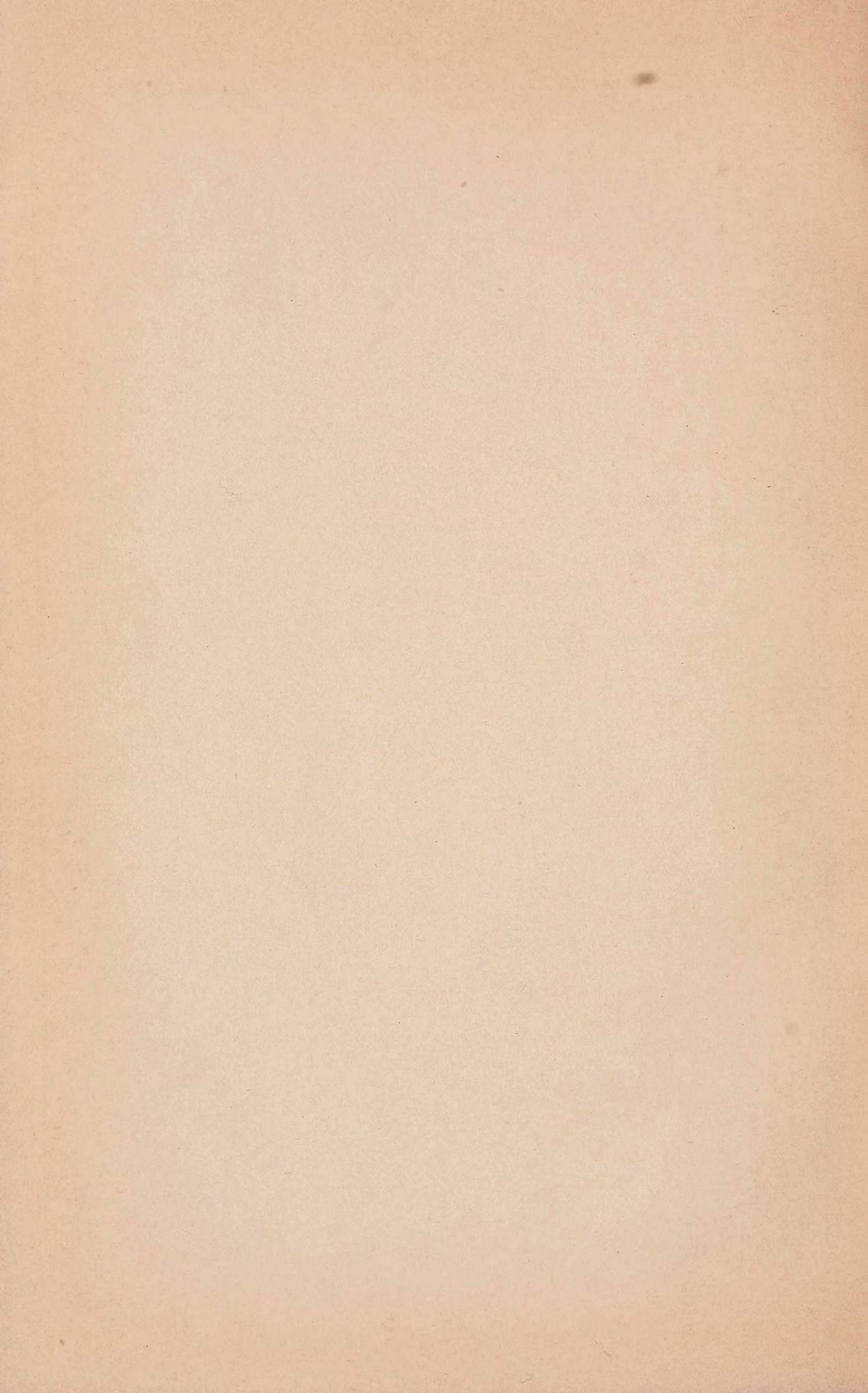




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A BRIEF
MEMOIR
CONCERNING THE
TYPHUS FEVER,
PREVAILING IN
ABERDEEN,
DURING THE YEARS 1818 AND 1819.

BY GEORGE KERR,
SUPERINTENDENT OF THE TEMPORARY HOUSES OF
RECOVERY.

Aberdeen:
Printed for J. Booth, Jun. Chronicle Street.

1820.

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A BRIEF

MEMOIR

CONCERNING THE

TYPHUS FEVER,

PREVALENT IN

ABERDEEN

DURING THE YEARS 1812 AND 1813.



BY GEORGE KEIR,

APPOINTMENT OF THE PHYSICIAN IN CHARGE OF
THE DISPENSARY.

Aberdeen:

Printed by J. Macfarlane, at the 'Black and White' Press.

1814.

MEMOIR, &c.

THE FEVER that broke out in the North of Ireland in the spring of 1816, appeared to originate in the extreme distress of the lower classes, many of whom suffered from famine. It was highly infectious, and throughout Ulster proved fatal to multitudes; particularly to those who could not command the necessaries of life, and far less its comforts, and was soon communicated to the western coasts of England and Scotland, where it still continues prevalent. In the beginning of summer 1818, it made its appearance in Aberdeen. A pauper female lunatic from Glasgow was admitted into the Lunatic Asylum here, in the month of May, who soon sickened, with the usual symptoms of the milder Typhus Fever, and two patients and two servants having been taken ill within a few days, the Manager's Committee Room was occupied as a Sick Room; a large apartment elevated above the greater part of the building, with complete ventilation. In this situation, although the cases appeared at first to be of a very alarming nature, the symptoms gradually became milder, under the common treatment, and all the patients recovered, the disease making no farther progress in the Institution. During the month of June, however, several cases occurred in the Dispensaries and Infirmary, and the numbers rapidly increased during the months of July, August,

August, September, and October. In November, the cases had become so numerous, that a general meeting of the Managers of the Infirmary was called by the Lord Provost, to consider of the most effectual means of checking the contagion; and subsequently, a general meeting of the inhabitants was held in the Town Hall, when subscriptions were commenced, and a general Committee appointed to take what might appear the most proper measures, to remove the diseased poor as speedily as possible from their healthy neighbours, and provide for their comfortable accommodation and subsistence while under cure. A large and well-aired manufacturing house, in the Gallowgate, was opened as an Hospital for the reception of Patients on the 1st of December, but the accommodation it afforded was soon found too limited; and application having been made to the proper authorities, permission was obtained to occupy first the Military Hospital, and afterwards the Barracks, as Houses of Recovery during the prevalence of the disease. The very best accommodation was thus afforded to the sick, in an excellent well aired situation, nearly out of town, and every advantage given to the means used for effecting a cure. The good effects of this arrangement were soon apparent, the number of cases in town decreasing rapidly, as bedding and other necessaries were procured for the reception of more Patients in the Houses of Recovery; and in April 1819, the number of cases in the Houses, under treatment in the Infirmary and Dispensaries, were reduced to about 110, which, in the month of December immediately preceding, had amounted to 216.

It was from the first evident, that poverty and distress had predisposed the lower classes for the ready reception of this contagion. The price of labour was at the time too low to furnish the poor with the means of procuring the necessaries of life, and the members of the Sub-committee often found, in their visits to the abodes of the diseased, that they had not the means of procuring the smallest sustenance, until it was furnished from the charity. They also found many destitute of sufficient clothing and fuel, and consequently suffering much from the inclemency of winter ; so that, enfeebled in body and necessarily labouring under dejection of mind, they immediately received, and in their turn communicated, the contagion.

Upon the whole, the disease appeared in a mild form, few deaths happening in proportion to the number of the diseased ; but occasionally cases of the very worst description appeared, with symptoms approaching to those which distinguish the plague. Amongst those who, placed in easy circumstances, could command the comforts of life, the disease made little progress at first ; but cases became more frequent after some months, and were attended with more formidable symptoms.

It has ever been observed, that contagious diseases, whether in cities, garrisons, or camps, first prove fatal to the lower classes ; but if they proceed without a check, they come at last to affect all ranks, and the rich as well as the poor fall victims. The Typhus Fever first affected paupers in this place, and the more indigent manufacturers, and gradually extended to
servants.

servants in the families of the more opulent, and others of a higher rank. That it was highly contagious admitted of no doubt, seven out of ten medical attendants having been taken ill within two months after the Houses of Recovery were opened, of whom one died; and fifteen nurses within four months after they commenced their attendance, of whom nine died. In short, it was evident from the first, that we had imported the Typhus of Ireland and the west of Scotland, the whole history of the disease exactly agreeing with the accounts given by the Irish physicians of the disease prevalent with them, and the same methods of cure proving successful here, which they had found reason to approve.

The disease has been so fully described, in many respectable publications, by practitioners who during the last four years have had much experience in its diagnosis and treatment, and their descriptions agree in so many points with the symptoms observed here, and the remedies found successful, that a particular detail of cases will be unnecessary. It is not intended to present the reader with a formal Essay on Typhus, but briefly to shew, by a description of the general Features of the Disease, in what respects it agreed with the varieties observed elsewhere, and what practice appeared most successful.

Modern Physicians, after long discussions concerning the causes of Fever, have for the most part abandoned the investigation as hopeless, no one hypothesis having been adopted, upon which a consistent and true theory could possibly rest.

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Something peculiarly noxious in the state of the atmosphere, has been assigned as the cause of contagious fever; but it is a well ascertained fact, that such fevers break out in the best seasons and the most healthy situations. On the 17th May, 1717, Prince EUGENE encamped fifty-five thousand soldiers in good health at Belgrade, upon the Banks of the Danube. The air was pure, the water was good, and plenty of food and all other necessaries abounded; yet when, upon the 18th of August, he had to engage, only twenty-two thousand men could bear arms, the other thirty-three thousand, as we are informed by Marshal SAXE, were dead or sick. In June, 1780, our 71st regiment encamped on open ground within five hundred paces of the river Pedee; the second battalion joined in July—all the troops in perfect health—and yet, within three weeks, not more than one-third of the whole number was fit for service. On the other hand, when the Manilla Galleon was taken by ANSON, on the 20th of June, 1743, in the Indian ocean, 400 prisoners were confined in the hold of the *Centurion*, upon an allowance for each man, during twenty-four hours, of an English pint of water to his salt provision. The weather was excessively hot, and the stench of the hold intolerable even to the crew, yet all these men came out alive, after a confinement of thirty-eight days.

The prevalence of contagious Fever cannot then be referred entirely to the state of the air, although the fact is well known, that in certain situations, where the water is good, provisions wholesome and in plenty,

plenty, and every external circumstance apparently favourable to health, there is some quality in the air which our senses cannot detect, that proves destructive of human life. In the lower districts of Georgia, in North America, white females born and residing in the country have seldom been observed to reach the age of forty, or males that of fifty; and Dr. JACKSON informs us, that there is not on record an instance of a person born at Petersburg in Virginia, and constantly residing in the same place, who has lived to the age of *twenty-one*. “I had an opportunity,” says he, “when the British army marched through this place, in 1781, of seeing a native of this town who had attained his twentieth year, but he was said to be the first who had attained so advanced an age. He was decrepid as if from the effects of age, and it did not appear that he could live many months.”

Such permanently insalubrious quality in the air is, however, unconnected with incidental contagion producing Fever, for the Doctor mentions, that this man never had been confined by sickness; the fact is only mentioned as a proof, that air may be very deleterious while apparently good, according to the evidence of our senses—and that, as in the case of the prisoners on board the *Centurion*, it may appear to us highly noxious and yet support life.

Putrid effluvia have been supposed to occasion infectious diseases; but, in many instances, we find putrid and marsh effluvia produce no sensible effect upon the health of those exposed to them, although we find that in fenny counties intermittent Fevers are most fre-

frequently prevalent. A writer of the last century observes, that “many people in Britain, Holland, and Hamburgh, have seen a dunghill made up of the offal of whales, which occasions a terrible putrefaction; it seems to be more abominable than if a hundred dead horses were thrown into one heap, and consumed in their sap: yet we never found that the family of a farmer, the people of a parish, or a county, have been killed by the nearest approach they have made to these dunghills. - - - - At a moderate computation, the mass of corrupted matter, produced in the cities of London or Paris, cannot be less than seven or eight hundred millions of pounds every year. This immense quantity of matter is first consumed in the bodies, by a heat equal to ninety-six degrees of the thermometer. It is further corrupted by the heat of the dunghill, and at last is spread out upon those lands that lie in the neighbourhood of these cities. And although this be the situation of London and Paris, covered over with exhalations extricated from this putrefaction, the pestilence has not attacked these cities more frequently than others of a smaller size.”

From these facts it would appear, that pestilential Fever is not necessarily produced by air which to our senses appears offensive; and, on the contrary, it frequently makes its appearance in places well aired, well supplied with good water, and where provisions are in plenty. No particular climate is more exempted from this disease than another, although its symptoms in warm and cold climates differ very considerably; nor does it appear to be produced by *diet*, for
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those who use but little animal food are just as liable to its attacks, as those who subsist principally upon salted provisions. Musty corn and meal was the supposed cause of the plague that broke out at Marseilles, when the place was besieged by the Romans, under JULIUS CÆSAR; but the soil and air of the place are dry, and we can scarcely suppose that the grain would be more injured by keeping there, than in large granaries, such as at Dantzic, where it is kept for many years, without proving prejudicial to health.

But although neither air, climate or diet, of themselves necessarily produce infectious Fever, we cannot doubt the fact, that where it is communicated and already prevails, foul air, a climate intemperate, whether from heat or cold, and food of improper quality, will render the disease more fatal. The want of a sufficient supply of food, although in all cases it does not produce infectious Fever, never fails to predispose the sufferers for its reception, and much encreases their danger, as has been uniformly observed during the prevalence of the Epidemic lately prevailing.

When, however, men are exposed to bad air, inclement seasons, and food neither sufficient in quantity or quality for the support of life, *while in a state of inaction*, and particularly when labouring under dejection of mind, then it has been observed that contagious Fever is produced, which spreads rapidly among those exposed to the contagion.

The hardships of great fatigue, even with short allowance

lowance of food, seldom renders soldiers or sailors unhealthy, but history abounds with instances of pestilential fevers added to the other miseries of a siege. Indeed, it has very seldom happened, that a garrison has been besieged for any considerable time, suffering from scarcity, and has not also suffered from the ravages of infectious Fever. The plague of Athens, during the second Peloponnesian war, so well described by THUCYDIDES; the pestilential fever that depopulated Jerusalem during its siege by VESPASIAN, and many instances in modern times, will immediately occur to the reader. Soldiers are very seldom sickly upon a march, or when undergoing fatigue—but in camp or garrison, the number of sick in every corps is for the most part considerable; and in such situations, infectious diseases rapidly spread. During the active campaigns of the French armies, from 1792 to 1815, they suffered very little by disease, and the British army was in the most sickly state, during periods of comparative inactivity in Portugal and Walcheren. In the Roman armies, VEGETIUS informs us, that the Generals always provided for the exercise of the soldiers in camp and garrison; and the horses were when in confined situations tied up, till their forefeet merely touched the ground, and flogged till they were bathed in sweat, to preserve them from the fatal effects of inactivity.* When Gibraltar was besieged

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during

* PLUTARCH informs us, that EUMENES, blockaded in the little Castle of Nora, in Cappadocia, by the troops of ANTIGONUS, was in danger of losing his horses from want of exercise, and preserved them by the means stated.

during the American war, General ELLIOT kept up constant fatigue parties, and with the happiest success, for the garrison suffered very little, although it has since suffered by an Epidemic when in a state of tranquillity.

In jails and hospitals contagious fevers very frequently occur; and not many years have elapsed, since the most fatal effects were produced in different parts of England, by bringing forward for trial prisoners labouring under this description of Fever, which appears to arise from the same state of inaction in such situations, that produces it in garrisons blockaded.

The present Epidemic, it has already been mentioned, first broke out in Ireland, when the poor were unemployed, and consequently suffered from want, as well as the consequences of inactivity and dejection of mind. It has in its progress prevailed chiefly in manufacturing towns, in which the poor were unemployed, or could not procure the necessaries of life by the price of their labour. In the country, it has been most prevalent during the winter months, and during the active season of the year has afforded few cases for observation.

It is observed that Constantinople, the residence of the Ottoman Court, is not supported like other cities by the industry of its inhabitants; but the Grandees, with their numerous retinues of servants and slaves, form the great bulk of the population. It appears to be a vast idle encampment, and every year this metropolis

polis is visited by pestilential Fever, and requires a constant supply of inhabitants from the provinces.

From these facts it appears, that *inaction, suppressed or much diminished perspiration, and the languor of spirits* into which men naturally fall in such a state, have a direct tendency to produce pestilential Fever; but when produced, the contagion spreads, as has already been noticed, amongst all exposed to its influence, without distinction. The common observation, that famine is succeeded by pestilence, is for the most part well founded; although, when engaged in any active pursuit, men will bear up for a long time with what would be at other times a very inadequate supply of food. But in cases of famine, there is no prospect of immediate relief—the strength is impaired, the spirits fail, and a state of despondency supervenes, which puts an end to all exertion. Then, indeed, poverty and disease conspire to cut off the unhappy sufferers, according to the description given by LUCRETIUS† of the condition of the poor of Athens, during the plague.

“Languabant, penitusque casis contrusa jacebant;

“Corpora, paupertate et morbo dedita morti.”

The great importance of Houses of Recovery, in checking the progress of this infectious Fever, is universally acknowledged; and at Londonderry, where it raged for some months in 1817 with great violence, it was found necessary to erect temporary wooden buildings, at a considerable distance from the city,

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before

† From THEUCYDIDES.

before the daily number of deaths were diminished, although the place is in general remarkably healthy. The removal of the patients from their wretched abodes, comfortable bedding, and the assurance of a regular supply of nourishing food and proper treatment, do much of themselves to tranquillize their minds; and the sight of convalescents enabled to sit by the fire, or walk through the wards, encourages the hope in others, that they too shall soon be in such a state of recovery. It would also be well in such establishments, to keep the cases that threaten a fatal termination out of the larger wards, that the patients may as much as possible be spared the shock of witnessing the last agonies, and seeing dead bodies removed.† In this place, the accommodation afforded by the Military Hospital and Barracks was truly excellent, and admitted of every necessary classification of patients; and to this, in a great measure, is to be attributed the favourable result of so great a proportion of cases.

These observations may be of some use, should such an Epidemic visit us again; and it may also be useful to remark, that Fever of this description does not appear to propagate infection unless by *Contact*; and hence we may account for the great proportion of the medical attendants taken ill, who were hourly
feeling

† When cases appear desperate in large wards, the beds ought to be so contrived, that temporary curtains may conceal the dying from observation. On the Continent, the use of bed curtains has again been adopted in many hospitals, as adding most essentially to the comforts of the patients.

feeling the pulses of the sick, drawing blood, &c. and of the nurses, who had to be almost constantly in contact with the patients; while I, although walking through the wards very frequently, receiving reports of cases, but not often in contact with the patients, entirely escaped the infection.

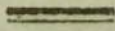
Contact, in this case, means not only touching the patient's body, but clothes, bedding, and all habiliments used by those labouring under the disease; but there is every reason to believe that the *air* is never the vehicle of such contagion. This fact has been fully established by an eminent Russian physician, SAMOLOWITZ, who says, "Yes! we must absolutely avoid all contact with bodies infected, if we would avoid infection ourselves. At first the people, and even some physicians, would not believe that Pestilence (an aggravated Typhus) could exist in the climates of the North, so cold, and so far removed from Turkey; and they would not believe in the necessity of avoiding *contact*, so that the disease proved very fatal. But the *noblesse*, the *rich*, and the *merchants*, who knew that, to ensure their safety, it was necessary to avoid the crowd, and to have no manner of *contact* with the infected, remained free from infection in the capital, and cities adjoining. *All breathed the same air*, a proof that the *contact* they carefully shunned was their safeguard. The people at length seeing this, also avoided contact, and the deaths were much diminished in consequence. The Prince ORLOFF arrived at Moscow during the pestilence that carried off 133,000 inhabitants, and frequently visited the Quarantines and Pest Houses,

Houses, attended by his *suite*. All breathed the same *air*, but by carefully avoiding *contact* in every shape, he and his attendants altogether escaped the contagion.* If then, the Pestilence is not communicated by means of the atmosphere, and the proofs that it is not so communicated are abundant, there is no reason to conclude, that Typhus Fever will infect otherwise than by contact.† *Yellow Fever* is communicated only in this manner, and the facts ought to be generally known, on account of the means of prevention they suggest.

The short observations here offered to the Public are intended to be useful, by briefly stating the best means of checking the progress of contagious Fever; while, in some instances, they may deserve the attention of the Profession. It appears, therefore, proper to set out with a statement of what is to be done, upon the first appearance of such an Epidemic; and the experience of the last five years leaves no doubt, that the first care of a municipality in such a case must be, to provide the means of immediately removing the sick from those who are yet healthy. In cases where
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* When the French army was in Egypt, NAPOLEON used to visit the Pest Houses, conversing with and encouraging the sick soldiers, but carefully avoiding all contact, and his health continued perfectly good.

† To the atmosphere of the disease (plague) all the Medical Gentlemen of the army were exposed, as they saw and examined the cases in the first instance; *but except from actual contact, there never appeared to be any danger.*



the disease is comparatively mild, those in the middle ranks of life would not agree to separation from their families, and indeed the necessity is not so urgent; but when the symptoms of a more aggravated nature make their appearance, the sick ought to be separated from the healthy, without any regard to rank. Accommodation for the wealthier classes might be procured, with more comforts than common hospitals afford, but the separation ought to be made, that the propagation of infection by contact may be prevented. An able pamphlet, by Dr. MILLAR of Glasgow, gave us much information upon this part of the prophylactic system, at the very time that the disease had assumed a formidable appearance at Aberdeen, and no time was lost in procuring proper receptacles for the sick. The chief hinderance to the effectual separation of the healthy from the sick, was the want of bedding; and although the donations of the public were liberal, some time elapsed before we could accommodate one hundred patients. A small annual subscription, allowed to accumulate at interest, for a Fever Hospital, might obviate this difficulty, should we be visited by a similar Epidemic at any future period; and the bedding used upon the last occasion, being thoroughly cleaned and aired, would in so far form a supply.

An airy situation is preferable for a House of Recovery, with such accommodation as is afforded by Military Hospitals; and in addition, at least two Baths for every fifty patients, which may be used cold or warm as the cases require. An abundant supply of

of fresh water ought always to be at hand, as frequent ablution is absolutely necessary, both for the sick and their attendants.

Light portable close stools should be procured, easily moveable to the bed sides of the patients, and the pans of these ought to be immediately emptied after being used, and left half full of cold water.

Good ventilation, by the free admission of fresh air, is absolutely necessary, and a House of Recovery ought to be so far in a retired situation, that the patients may not be molested by the noises of a crowded street, or the immediate neighbourhood of any manufactory, which must necessarily disturb them.

Perhaps no medical practitioner in Europe has had so extensive experience, in the treatment of contagious Fever, as GIANNINI,* superintending Physician of the great Hospital of Milan; a most judicious practitioner, to whom the world is indebted for much valuable information upon this subject. In that great establishment the deaths annually amount, as he informs us, to about 3,500; and of those, upon an average of the numbers who *died of Fever* from 1785 to 1804, forming part of the annual deaths, it amounts to upwards of 560. "We give," says GIANNINI, "different names to the same disease, and I include in my calculation *Typhus, Malignant Fevers, Nervous Fevers, Hospital Fevers*, as well as the Fever called *Synochus*, commencing with the common symptoms

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* He published an Essay "*Della Natura delle Febbri, e, del miglior metodo di curarle,*" &c. Milano, 1805.

of inflammatory Fever, and assuming the typhoid form towards its termination." This observation is of great importance in practice; for although the same contagion acting upon different ages, sexes, and constitutions, may and does produce symptoms altogether different, we must still bear in mind, that these symptoms are the effects of contagion, and be equally guarded against unnecessary contact, whether highly inflammatory symptoms demand the free use of the lancet, or complete prostration of strength render it necessary to support the patient by the use of wine, or even brandy. To form a classification of Fevers from the various symptoms that occur at different periods of contagious Fever, or in different constitutions and ages, is obviously wrong, if it tend to influence our practice during the whole course of the disease; the symptoms must be prescribed for as they arise, but we must always bear in mind the source from which they originated.

With regard to Fumigations—the Nitric Acid is preferable to the Muriatic, which in many cases produces bad effects upon the lungs, considerable emaciation, pains of the joints, cough, watchfulness, and want of appetite. "But (adds the author already quoted) fumigations will produce no considerable good effect, unless the most scrupulous regard is had to cleanliness. If the patient is to change his linen, that which he puts off should be immediately plunged into cold water which has received the addition of some vinegar, to prevent the diffusion of contagion from the foul linen. The greatest care ought

to be taken to provide careful and intelligent attendants, who will readily comprehend the physician's orders, and faithfully execute them. But all these precautions will prove unavailing, unless the *Hall* (or *Ward*) be so insulated, that it must be impossible for those attached to the establishment to carry out contagion. For this purpose, there ought to be an anti-chamber, in which there should be constantly kept up a strong vapour from *muriatic acid*† oxygenated. In this *anti-chamber*, the clothes of patients on their entrance should be exposed for one whole day to the vapour, on ropes placed sufficiently high to prevent the colours from being damaged, and then removed to another well aired apartment. Whatever is used by the medical attendants during their visits is to be placed in this apartment. And they, and all others employed in the care of the sick, shall never go out without passing through it, and remaining for a few minutes exposed to the muriatic gas. Here also those engaged in attendance upon the sick should leave the clothes worn while engaged in their duty, when upon any occasion it is necessary to go abroad. Healthy persons should not be admitted generally into the wards, nor without the permission of the superintendent; and only under the most pressing necessity, when humanity absolutely demands their admission. They should be fully apprized of the danger to be apprehended

† The author, it will be observed, recommends in preference vapour from nitric acid in the wards, and *muriatic acid* in the apartment, where the patients or attendants make no long stay; but infected clothes are exposed to its influence.

hended from contact with the sick ; should remain for some minutes exposed to the muriatic gas, and wash their hands in water and vinegar before going out; a precaution which the physicians, and all employed in the establishment, should never fail to adopt. This precaution has become so familiar to me, that I scarce touch one sick person without moistening my hands in vinegar diluted, and this in private practice as well as in the hospital. Domestic animals, such as dogs and cats, are to be excluded at all times. The organization of their skin renders them unsusceptible of the contagion, but their hairs may very readily convey it." These observations will be found well worth attention where contagious fever prevails, and Houses of Recovery are provided for the sick, as well as in the construction of permanent Hospitals. The Milanese physician also recommends, that fever institutions should not be attended by many physicians in rotation. "Science," says he, "as well as the sick, will gain by having a physician employed, who has made contagious fever the subject of his particular study." This observation is certainly just—for although the general indications are not very numerous, and the method of cure sufficiently simple, the varieties of cases are innumerable, and experience alone can enable the practitioner readily to form a just opinion of the patient's real situation, and suggest the proper remedies.

In our Houses of Recovery, we did not possess all the conveniences mentioned by GIANNINI, and indeed the Hospital of Milan is not provided with them all,

but their utility ought to be generally known; and if at any future period it should be necessary to build a Fever Hospital, the suggestions of a Physician of so great experience ought to meet with attention. I am well persuaded, that Fumigations will not prove effectual to check the propagation of this contagion, while contact is not guarded against, but they are highly useful in destroying contagion communicated to clothes, walls of houses, &c. and ought to be for that purpose constantly used.

Of about 2,400 cases treated in our public Institutions, during the year from the 1st Sept. 1818, to the 1st of Sept. 1819, we had a great variety of symptoms. Some affected with the greatest debility from the first; some highly delirious; some very soon exhibiting petechiæ, with ulcers about the glands of the neck; and some with the appearances of yellow fever. In short, the Dublin Reports exactly describe the general symptoms of our Epidemic; and we have reason to think, that nearly the same methods of treatment have been found successful, wherever the disease has prevailed. *Cold applications to the surface of the body, blood letting, and occasional purgatives,* with a due attention to *ventilation,* formed our chief remedies. The first of these, *cold applications* in cases where they were indicated, never failed to give relief at least for the time; but we had not all the conveniences necessary for their application. The shock of cold affusion, as recommended by Dr. CURRIE, does not appear so proper in most cases of contagious Fever, as more gradual and gentle means of reducing the heat of
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of the body, and the frictions with pulverized ice or snow, so much recommended by the Russian physician already mentioned, SAMOILOWITZ, appears to be a harsh and unpleasant remedy.* GIANNINI recommends that the patient, labouring under the disease with much increased heat, should be placed in a Bath heated to 98° of FAHRENHEIT; that the warm water should be gradually drawn off by a small cock, while cold water is admitted through small apertures in various parts of the bath, till the water is quite cold. No shock is produced by this means, while the wished for refrigeration is effectually produced. Tepid affusion is for the most part very grateful to the patients, who may by degrees become accustomed to colder water; and spunging with water milk warm, upon every exacerbation of fever, appears to produce a better effect in cooling the patient, than if the water were quite cold. But after the strength is quite recovered, there can be no doubt of the utility of cold bathing in whatever form may be agreeable to the patient, the powers being now equal to oppose a proper re-action to the shock. Cold applications are
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* SAMOILOWITZ certainly found frictions with ice of the greatest utility in pestilential cases. A large piece of polished ice was sometimes used, which rapidly abstracted heat from the body, the skin appeared flushed soon after the operation, with great alleviation of even the most formidable symptoms. He describes one case of a young woman, in which the symptoms that in pestilence usually precede the death of the patient but a very few hours, were removed by repeated frictions with pieces of smoothed ice, and health was completely restored. Ice may be thus employed, without wetting bed clothes in any considerable degree.

sometimes very useful when applied partially, as to the head; and even washing the hands is a most agreeable luxury to a feverish patient. In cases where great debility prevails about the time of the first attack, *warm bathing* must be had recourse to at first; but if we succeed in removing this debility, we may lay our account with having to employ cold applications at subsequent stages of the disease, when re-action comes on.

With regard to *blood letting* in this disease, a great revolution, and a most beneficial one it has proved, has taken place in medical practice within these few years. CELSUS† observes that, in his time, to draw blood from a vein was nothing *new*; but the discovery, that in almost every disease it may be drawn, was *new*. Those who bear in mind the common treatment of infectious Fever twenty or thirty years ago, the quantities of bark and wine the patient had to swallow, and the confidence with which a patient was affirmed to have been killed, if a scanty bleeding had failed to check the disease, will admit it to be something *new*, that the free use of the lancet, in cases of contagious fever is found to be, particularly at their commencement, a most efficacious remedy, and not unfrequently when the disease has gone on for some time.

The most dangerous cases we met with were those in which there existed local inflammation, or a tendency to it, in the Head, Thorax, or Abdomen; and
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† Sanguinem incisa vena, mitti, novum non est: sed nullum pene morbum esse, in quo non mittatur, novum est.

in these cases venesection, sometimes often repeated, was found to be of the greatest service. Sometimes, however, such cases were attended with great general debility, and contrary indications rendered it very doubtful what course ought to be pursued. Several patients died thus affected, and upon inspection it was found, that effusion had already taken place in some of the great cavities, although symptoms of local inflammation had continued strongly marked to the last.

In one case, where the complexion had assumed a deep yellow hue, venesection to the amount twenty-four ounces, relieved the distressing symptoms, delirium, tossing, &c. at the same time clearing the complexion of the yellow tinge within less than half an hour; an effect of bleeding which I had not anticipated, and pointed out particularly to the medical attendants at the time.

With regard to Wine, we used but little, and bark was scarcely ever prescribed. In cases of great debility, where some stimulus was necessary, Brandy diluted appeared to have the best effects; and good Malt Liquor was more agreeable to weak convalescents, and was in fact better suited to their condition, than wine or alcohol in any shape †

In cases where a disposition to vomit, with head
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† In cases of much langour and debility, I was anxiously desirous of trying the effects of the exhilarating gas. That, inspired into the lungs, it produces a grateful, a sudden, and powerful stimulus, the effects of which last for several hours, we ascertained; but such a prejudice against its use prevailed among the patients, that we were under the necessity of desisting from its use, before any considerable number of cases might have afforded a criterion of its real effects.

ach, appeared, Emetics were useful, and the mildest were in general sufficient to evacuate the contents of the stomach. The exhibition, however, of Emetics, as well as Purgatives, must be regulated by prevailing symptoms, and left entirely to the judgment of the practitioner.

Physicians on the Continent describe with much minuteness certain stages of Typhus:—1. That of *infection*, which occurs the instant the contagion or morbid poison is received. 2 That of *opportunity*, when precursory symptoms of indisposition are observed. 3. That of *invasion*, when febrile paroxysms begin. 4. The *inflammatory* stage. 5. The *nervous* stage, when the sensorium is affected, torpor prevails, and involuntary motions, &c. take place. 6. The *crisis*, when perspiration alleviates the symptoms. 7. The stage of *abatement*, when the patient becomes sensible of his situation, thirst, &c. ceases, and the appetite begins to shew itself. 8. That of *convalescence*, when steady progress is made towards a state of perfect health. These stages may no doubt really exist, but in public Institutions we seldom have any opportunity of seeing the patients, until the disease is fully formed. We, however, find the greatest variety in the symptoms of the first attack, and in many cases the succession of symptoms is not such as is above described, by Dr. HILDENBRAND of Vienna. He also says, “that young and middle-aged individuals are most liable to infection, whilst infants and children are very rarely affected; and old and decrepid persons seem incapable of receiving the infection.” Our experience in this place did not agree with these observations. We had
 many

many cases of children not more than two or three years of age, and those advanced in life were more generally affected than others, and more frequently fell victims to the disease. The same author maintains the doctrine, that when once the patient has received infection the symptoms may be modified, but the disease, like small pox or measles, must run its course, and cannot be entirely removed by any mode of treatment. It is true, that the disease is very seldom removed in less than fourteen days, the usual period when in favourable cases a crisis takes place, but sometimes the febrile symptoms appeared to me to give way to cold applications and blood letting, within eight or ten days. One thing, however, was very observable, that favourable crises occurred most frequently during the first and second quarters of the moon, and after full moon till the change very seldom indeed. This had been long observed by the older Physicians; and Dr. JACKSON particularly mentions the fact, in his Essay on Fever, having particularly observed it, while serving as an Army Surgeon in America, during the revolutionary war. Relapses take place most frequently during the last quarters of the moon, and if patients so relapsing, do not experience a very considerable abatement of morbid symptoms upon the ensuing change, the probability is, that their cases will prove fatal. Indeed, when death happens in this disease, the fatal crisis is either premature during the inflammatory stage, or procrastinated till after the usual time of a favourable crisis.

A very judicious Physician, who wrote upon Epidemic Disorders about half a century ago, and had

great experience, Dr. SIMS, declares his conviction, that no disorder is incurable but old age, were our knowledge sufficiently extensive to furnish us with the proper means of treatment; "but in Fevers, (adds he) I am assured, those which we know at present are perfectly sufficient, and shall ever fear that a Physician was in fault, if a fever patient die to whom he has been called, while any degree of strength remained, and that patient obedient to his directions."

Whether the Doctor's assumption, that all diseases are really curable, be correct, I do not take upon me to decide; but I have no doubt that of fever cases the deaths will be few, provided the treatment be judicious, and proper means at hand to promote recovery. The patients who apparently at the very last and most desperate stage of the disease, yet recover upon the application of some active remedy, as in the case of the young woman mentioned by SAMOILOWITZ: their cases ought to teach us to be cautious, how we affirm a case to be absolutely hopeless, and that nothing is to be done. The application of cold by means of ice evidently saved the life of the Russian physician's patient; and in Britain it is but too probable, these means would not have been adopted. To keep an accurate account of the symptoms of unsuccessful cases is, therefore, highly necessary; because, as medical knowledge extends, we may no doubt have the mortification to find out, that treatment at the time to us unknown would have saved our patients—but we shall also have the satisfaction of a well founded confidence, that similar cases under our care shall in future have a result more fortunate.



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