Medicina simplex, or, Practical rules for the preservation of health : printed at the request of some friends, for popular use / by T. Forster.

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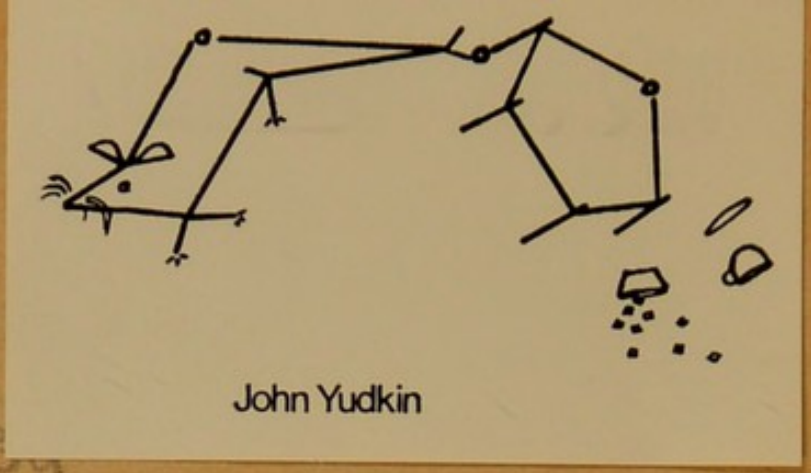

John Yudkin

By
Thomas Ignatius Maria Forster

For an account of this extraordinary man, who introduced the term 'phrenology' founded the Phrenological Society, and was scientist, poet, musician and literary editor See DNB

MEDICINA SIMPLEX;

OR,

PRACTICAL RULES

FOR

THE PRESERVATION

OF

HEALTH;

Printed at the Request of some Friends,

FOR POPULAR USE.

By T. FORSTER, MB. F.L.S. &c.

PHYSICIAN OF CHELMSFORD.

Being Partly an Extract from

"ILLUSTRATIONS OF THE ORIGIN OF EPIDEMIC DISORDERS,"

BY THE SAME AUTHOR.

SECOND EDITION.

Non enim multitudo ciborum et deliciæ naturam debilem corroborant, sed modica quantitas viribus respondens et qualitas temperamento conveniens.—LESSIUS.

CHELMSFORD:

PRINTED BY MEGGY AND CHALK, HIGH STREET; AND SOLD BY KEATING AND BROWN, AND BOOKER, LONDON; AND BY ALL BOOKSELLERS IN TOWN AND COUNTRY.

1829.

This Work, drawn up for a particular Institution, is published at the suggestion of some benevolent Friends, who thought that a few practical Rules for the Maintenance of Health, and the Administration of simple Medicines, might be of essential service to a numerous class of persons who, from habitual inattention to their Constitution, often defer Medicinal Aid till actual disease reminds them of their error, and who are perpetually injuring themselves by following unwholesome practices, which a little knowledge of the means of preserving health would teach them to avoid with permanent advantage.

These Rules may likewise be of use to the Hospitaliers of Convents, Schools, and Colleges, and to numerous Ladies, who at the present day imitate the Sisters of Charity, in making Visits to the Cottages of the Sick Poor; for they will greatly assist them in the discharge of their medical duties.

CHELMSFORD,
February 28, 1829.

[Entered at Stationers' Hall.]

MEDICINA SIMPLEX.

§ 1.—*Preliminary Argument that the Temperate and the Healthy are not much affected by prevalent Diseases—Power of the Human Constitution to adapt itself to Changes, when fortified by Temperance.*

Previous to laying down rules of health, it may be as well to show in what manner they are available in the prevention of diseases. Now disorders may be considered as having a twofold origin, the various external influences which act on the body being the exciting causes, while the unhealthy state of the constitution may be called the predisposing cause of diseases. Among exciting causes, the most powerful are those unhealthy conditions of the atmosphere, which, when very malignant, are called Epidemic Constitutions of the Air, but when mild are merely considered as unwholesome Weather; in either case their effects on the human body are violent or otherwise according as the individual has followed healthy or unhealthy habits of life. To direct persons in the choice of the former is the object of the rules herein laid down. History proves that not only in less virulent epidemics, but even in the more violent plagues, when the epidemic constitution of the air has been at its height, certain persons have totally escaped its attacks; and these have been the temperate and regular, who have that sort of secure and tranquil health in store, which is called stamina, from its being capable of bearing up against the incursions of disease. This sort of real soundness of constitution, the invariable result of due temperance, exercise, and regularity, is essentially different, both from the high florid but uncertain and artificial health which comes of repletion, on the one hand; and the weakness and debility of an impoverished habit of body, resulting from debauchery, neglect, and bad food on the other.

The persons whose health enables them to resist the effects of disease are those *who have been temperate for a length of time.* In times of certain sorts of pestilence, a little additional stimulus may be necessary, but it cannot be too often repeated, that it is the *previous* habits of the individuals which lay the foundation of their power to repel diseases. Numerous instances of what I have been stating have occurred during the spread of pestilential fevers in Europe, in Asia, and in Africa. I could also cite cases in point, which were collected in almost every country of America, and often during the most unhealthy seasons. In the greatest pestilences, even in those wherein cattle suffered, some temperate individuals, who lived by rule, have re-

mained quite free from the disease. I shall close this section with the relation of a fact, which is disgraceful to our profession. It has happened in times of plague that the physicians, impressed with an unnecessary dread of infection, have refused to attend on the patients, and their place has been supplied by catholic priests, who took compassion on the sufferers at the risk of their own lives; but it turned out that they entirely escaped the disease. Now this exemption, making all allowances for the power of mind over body in the consciousness of good actions, must be in a great measure attributed to those abstemious rules which the church enjoins, and which were more strictly observed in the early ages of Christianity.

I am persuaded that a careful examination of facts, in almost every part of the world, would prove the truth of the doctrine which I have advanced. In all climates animal life obeys the same general laws, however circumstances of temperature, of seasons, and of hereditary varieties of constitution, may vary their particular application. Temperance, modified according to the climate and the habits of the people, is every where the tenure on which man holds his health.

It seems almost necessary that those before whom the luxuries of the table are daily spread out, should live in a manner by rule, or at least that they should practise abstemiousness occasionally; there being always a tendency to eat more than the system really wants. It is remarkable that S. Ignatius of Loyola, whose mind was so perpetually intent on the spiritual welfare of his followers, and on plans of reforming the moral world, should have also laid down some of the best physical rules for the regulation of health. He is said, when he founded his Institute, to have called together a council of physicians, and to have examined them carefully before he formed his rules, for the regulation of diet, as well as of hours of rest; it is from this circumstance that the rules are so calculated to promote health of body as well as daily tranquillity and power of mind. Man is calculated to live by rule; and health, as well as mental labour, is beneficially economized by the periodical employment of our fleeting hours, and a judicious regulation of times and seasons. People fall into an error respecting diet in fever, which is natural, but at the same time so dangerous, that it deserves particular consideration. When the constitution has been debilitated by the disease, or exhausted by fatigue, I have seen people actually persuade the sufferer to take nutritive and stimulating things, and that too even against his appetite, under a false notion of keeping up the strength. Such practice greatly aggravates the disorders and produces further weakness, by exhausting the remaining excitability;

The practice ought in fact to be to give but little food, and that by degrees, and at regular intervals of six hours at least, so as to allow the enfeebled stomach to recover its digestive power between the meals, which it can only do by rest. Good air, and the excitement of cheerful ideas after eating, are also highly useful. It is also desirable that such food should be selected as agrees best with the individual.

§ 2.—*Summary View of the apparent Symptoms of Disorders of the Digestive Organs.*

Although we soon become acquainted with the disordered state of our digestive organs in some cases, by the pain and uneasiness they occasion, as for instance in stoppages, in colic, and in inflammation; yet there are other and less obvious disorders of those organs, which frequently escape the notice of the patient, till they have gone on sufficiently long to occasion great mischief in the animal economy. For this reason I shall here endeavour succinctly to point out to the notice of the reader, certain signs of disorder in the stomach, bowels, and liver, by attending to which in time, we may often prevent the occurrence of diseases of greater magnitude.

When the tongue be white or furrowed on its upper surface, or where there be a bitter or otherwise unnatural taste in the mouth in the morning before breakfast, we may rest assured, however well we may think ourselves, that the stomach, either from indigestion or some other cause, is irritable and out of condition. I know of no more certain sign of a disordered stomach than this. Persons who have the care of a family should observe the surface of the children's tongues the first thing in the morning, particularly when they are in the least degree indisposed, as some trifling indigestion, always indicated by the state of the tongue, is frequently the beginning of very serious disorders. By remedying this incipient evil in its early stages, by small doses of opening medicine, I believe many children might be saved from tedious and often fatal diseases.

The next symptom of disorder to which it will be proper to allude, is that feeling of uneasiness in the stomach after eating, which really arises from indigested food. This symptom usually, but not always, accompanies the one before described. When the meal has been too copious, or the food of a quality which does not agree with the patient's particular constitution, this sensation is generally experienced, and is often followed by nausea. We ought to take notice whether all food produce it, or whether the sensation only occurs after eating particular kinds of aliment, in order that in the latter case the obnoxious article of diet may be avoided.

When simple indigestion of the above described kind occurs, unattended by any particular symptoms of disease, it may generally be removed by small doses of rhubarb, taken an hour after dinner. By lessening the quantity of our food, and by adopting the several salutary habits described in the ensuing section, it may be avoided.

It may be observed here, that, generally speaking, a person to be in health ought to go to stool at least once every day. And it is not only dangerous to resist the natural inclination to do so; but we should, moreover, contrive to induce a habit of regularity in this respect, by taking gentle opening medicines at night, till the desired regularity be brought about.

When the stools are not of a natural colour and consistency, it indicates the defective performance of the subsidiary processes of digestion; the most important perhaps of all these is the function of the liver. If the excrements be not duly coloured of a deep yellowish brown, we should regard some defect in the bile as the cause of the discolouration, and should have recourse to small doses of mercury, or of calomel and aloes. For it is by the bile that the feces are coloured: colourless or pale feces, therefore, show that the secretion of bile is deficient, while green, black, and other discoloured stools, indicate an unnatural secretion of that fluid. In either case, the state of the liver becomes the object of attention, and, as the most distressing nervous symptoms frequently arise from a disordered liver, so may we often, by the timely application of simple remedies for the disorders of that organ, avert calamities of the most important nature, both mental and bodily. All this is more fully treated of in my larger work on Disorders of Health, but the extreme importance of a healthy liver rendered it advisable to admonish the reader, herein, to pay the most scrupulous attention to the signs of disorder in that viscus.

When any of the abovementioned signs of defective or vitiated bile appear, *five grains of the blue pill* may be taken every alternate night, and a draught, next day, of *one ounce of infusion of gentian, two drachms of infusion of senna, and one drachm tincture of cardamom.* This is an excellent stomachic in most cases of indigestion. In case of this draught not agreeing with the patient, any substitute may be employed which custom has reconciled to the constitution; as cascarilla, and so on. In many cases vegetable diet drinks, even the simple infusion of balm, of sage, horehound, and other herb teas, will prove beneficial, by tranquillizing the irritability of the stomach.

Before I close this section I feel disposed to repeat that medical practitioners, hospitaliers, or parents of families,

cannot be too particular in the examination of their patients, or children, as to the state of the digestive organs. Persons have frequently come to me complaining of various disorders of health, telling me, at the same time, that their stomach and bowels were right enough; when on subsequent examination I have found almost every symptom of disordered digestive organs. And I have been repeatedly successful in removing by simple remedies which act chiefly on those organs, many local diseases that have resisted all the ordinary means of cure derived from topical specific remedies, which nevertheless appeared to be sanctioned by the long established custom of the profession. It is almost incalculable what a number of ills may be prevented by timely attention to the digestion, when combined with temperance.

Various pills are vended by patent, the principal ingredients in which are aloes, rhubarb, and other purgative substances, combined with a little calomel. Many of these pills are very useful, inasmuch as by keeping the bowels open they carry off the ill effects of habitual intemperance, and prevent dangerous accumulations of feces in the bowels; but we should do better to avoid than to correct evils; for after all, it is on healthy habits, superinduced by rules of conduct with respect to diet, air, and exercise, that we must depend for the permanent maintenance of health.

Habit has been called second Nature, and we are reconciled by custom to many practices that would at first be felt as injurious. Man seems to have a much greater power of adapting his constitution by degrees to various and dissimilar circumstances, than most other animals possess. Nevertheless there are certain rules of conduct which in almost all constitutions are found to conduce to health, while the neglect of them predisposes more or less to disorders. The mode in which predispositions to disorder are usually produced, consists in the power of bad habits to derange the actions of the digestive viscera, and to irritate and debilitate the nervous system. It is then that various diseases will arise, even in the absence of specific pestilence, according to the hereditary tendencies of different constitutions, as soon as any exciting cause is brought into action. It is proposed in the sequel to point out what rules of diet are most conducive to health, in order that those who have weak and irritable constitutions may avail themselves of them: at the same time the most healthy may adopt them with additional advantage and security.

Rule 1.—*Of the Quantity of Food.*

The first rule of health is that which prescribes moderation in diet. It is essential that the patient guard against

eating more than the animal system requires for its daily support: the surplus of food does not well digest, but generally remains imperfectly acted on by the juices of the stomach and bowels, and becomes a source of irritation. In other cases, where the digestion is very powerful, too much food acts injuriously in another way, by overloading the system, and thereby aggravating all the predispositions to disease, and often leading to actions of the blood vessels so violent as to occasion immediate death, of which apoplexy is one striking example.

People form very erroneous notions of the quantity of food requisite, and too often imagine themselves safe from a full diet, merely because it does not immedtately exhibit its baneful effects. Mr. Hunter used to say, that most people lived above par, which rendered the generality of diseases or of accidents the more difficult of cure.

Children are very erroneously treated with respect to diet; those who are brought up to do with a little, are sure to feel the benefit of it the whole of their lives; and in cases of weakly and irritable young people, it is particularly injurious to endeavour to force their already enfeebled stomachs by too much nourishment, and particularly by such as is of a heavy or of a stimulating nature: the jelly of arrow root, sago, and other vegetable cordials often succeed in cases where the ordinary food is found to be injurious.

We may often illustrate opinions by examples drawn from extreme cases; in the case of diet, examples of such extreme moderation might be adduced, together with its salutary effects, as would astonish most well fed citizens.

The Carmelites, and some other Monastic Orders, for example, afford wonderful examples of the beneficial effects of abstinence. Hermits and Anchorites, in despite of their sedentary and other austere habits, have attained to a great age, in consequence, as it would seem, of their simple and scanty food. Where such simple diet has been combined with the other wholesome habits, described below, the consequences have sometimes been prodigious longevity. Old Parr is said to have been very abstemious; and old Jenkins, as we are told by the writer of his epitaph, was a remarkable proof that health and length of days were blessings entailed on temperance, a life of labour, and a mind at ease.

Rule 2.—*Of the Quality of Food.*

Next to the quantity of food, we ought to consider its quality. Some aliments are generally wholesome, as fresh meats, farinaceous vegetables, fruits and pulse of all kinds;

while fatty and oily substances, grease, swine's flesh, and some sorts of vegetables are commonly injurious. Independently of the general wholesomeness of some and the unwholesomeness of other articles of diet, there are particular persons who, from peculiarity of constitution, cannot eat certain sorts of food without being almost immediately seized with illness. Many people cannot eat honey; others are injured by butter. Dr. Gall, the celebrated anatomist, could never digest mutton. I knew a man who could eat anything but beef; and it is well known that numerous persons cannot eat pork, under any modification of cookery whatever. The smell of a cut cucumber is, to some, the most offensive odour in the world, while to other persons it is refreshing and delightful. I knew a lady in whom honey produced violent convulsions as soon as it was swallowed; and there are instances of persons who cannot sit in the room with cheese without being ill. There are others who know immediately of the presence of a cat in the room by some acute power of smelling, and who feel immediately unwell. All these and many other peculiarities are referred to what is called idiosyncrasy. Those who are conscious of any such peculiarities should scrupulously abstain from articles of food which disagree with them, and avoid substances whose smell is offensive, in defiance of the foolish solicitations of ignorant people to overcome them, who would feign persuade all who differ from them in taste to accommodate themselves, by force, to circumstances which nature shows to be discordant to their constitutional feelings.

But though morbid aversions should be yielded to, it is a question how far on the other hand morbid appetites should be indulged: no one should be indulged in a craving to eat hard and indigestible substances. Nevertheless in particular cases of this kind nature seems to point out an extraordinary remedy for some extraordinary state of disorder. Instances have been known where the indulgence of unhealthy pregnant women, as well as of other patients, in the gratification of a peculiar appetite, has been attended with singular advantage.

In the generality of persons who are not the subjects of those irregular desires, a salutary choice of aliments may be made and laid down as a rule. A small quantity of the more wholesome meats, if well dressed, as beef, mutton, game, and the domestic fowls; of farinaceous vegetables and puddings, with most sorts of ripe fruits, may be said to form the best ingredients of diet. People err very much, now a days, in giving children too much animal food. It may appear to agree well with them for a time, but is undoubtedly bad in the end, and I am convinced that for young people, and especially those of sanguine temperaments, a very small proportion of animal food is necessary, and that

the least habitual excess in this particular will increase the liability to disease, and enhance the danger from the occurrence of any of those epidemics to which they are subject.

There are persons, who to avoid too much meat, give their children, and even take themselves, too large a quantity of vegetables. Now all this is a great mistake; a heavy dinner of vegetables will produce more temporary, though less permanent inconvenience, than an overcharge of meat. The rule should be a moderate quantity of each, and it would be well if young folks in general were brought up to abstain from animal food two days in every week, for the sake of health. Meat can never be eaten by children more than once in the same day with advantage; and it would be better if grown up people also would confine themselves to it at dinner alone.

Rule 3.—*Of the Periods of Meals.*

Our attention ought now to be directed to the times of taking food. The custom of society has appointed regular hours of meals, and this seems quite conformable to the nature of the human constitution. The stomach digests a meal at the usual hour, owing to a kind of preparatory expectancy which is created by habit, much better than it would do if we were to eat at irregular times; and persons with weak health find, when they are obliged by circumstances to eat at unusual hours, that imperfect digestion is the consequence.

Three meals in a day are quite enough for anybody, and for the labouring class it is the usual number; many grown persons, however, find two to be amply sufficient, not considering tea as a meal any more than coffee, but rather making it a pleasant diluent after dinner.

Breakfast at nine o'clock, dinner at five or thereabouts, with coffee and tea afterwards, which, with variations, is the practice now of the opulent throughout the country, is a very good division of time: the labour and occupation of the day being got through before the dinner, and rest and leisure following it.

One should be careful not to drink much at dinner even of pure water. Mr. Abernethy used to recommend not drinking with meals at all, and called hunger and thirst incompatible sensations. This is, perhaps, carrying the notion too far, but I have always remarked that persons in the best health require little or no drink at dinner—a cup of coffee and a small glass of liqueur after dinner is enough—and I am persuaded that wine, beer, and spirituous liquors, in general at dinner are injurious, except in a very moderate quantity.

Indeed at all times the excessive stimulus of much fermented and spirituous liquors ought to be avoided: it is a fertile source of disorder, in consequence of its violent stimulus, though in persons habituated to such practices, the evil being rather gradual than sudden, its operation is apt to be overlooked. Good wines are found to be less injurious than bad, and the light French and Rhenish wines are perhaps the most wholesome, whenever they will agree with the stomach. All eating and drinking between meals is excessively bad, as it disqualifies the stomach for digestion; and luncheons and suppers are hurtful superfluities.

After meals, particularly after dinner, a state of rest is advisable; those who are forced to stir about and walk much, soon after dinner, often hurt their stomachs by so doing. All the carnivorous animals lie down and rest after a full meal; and nature soon convinces those persons, who try the experiment, of the great comfort and advantage of yielding to our inclination to rest quiet during the process of digestion. Exercise, so beneficial, and indeed so necessary to health, when taken at seasonable hours, becomes a source of indigestion and consequently of numberless diseases, if taken when the stomach is full. To prove this fact, Morgagni fed two dogs, after which he hunted one, and let the other lie at rest. At night both were killed and dissected: in the stomach of the former the food was still to be seen undigested, while from the stomach of the latter the natural process of digestion had removed the whole of its contents. Indulgence in any of the more violent passions, after meals, is also very injurious, and has often been followed by sudden death.

It ought to be laid down as a rule of conduct for all persons who are in any degree out of health, and particularly the dyspeptic, to sit quiet, at least two hours after dinner, and, if possible, in cheerful society; since agreeable affections of the mind, at or after the time of eating, promote good digestion; and the custom of company at meals has, perhaps, had its foundation ages ago in the knowledge of this fact. If, however, a disposition to sleep after dinner be felt, there is no reason why it should not be indulged in: neither is coffee nor the smoking of an afternoon pipe of tobacco the least injurious, as some persons have vainly imagined. As pleasant sedatives, where they agree with the patient, they are rather to be recommended than condemned.

Scholars, particularly children, should be allowed two hours of play out of doors *before* dinner, and one of quiet recreation *after* it: labour would come easier the rest of the day. Children often suffer dreadfully at schools, from the want of

due exercise before dinner, as well as from overdoing their study, particularly during the digestion of their meals.

Rule 4.—*Of Exercise, Air, and Sleep.*

Exercise and good air come next to be considered, comprehending the very salutary habit of early rising, and taking the fresh air of the morning. The old proverb which recommends getting up with the lark is founded on good sense, and has received the sanction of a long experience in its favour. Whether it be that certain active persons, constructed at all events to be long livers, have got up early from the native activity of their constitutions; or whether early rising actually possesses the healthy influence that is ascribed to it, facts are wanting to determine; but certain it is, that of an enormous catalogue of persons who have attained to a great age, of very dissimilar habits in other respects, a very large proportion have been early risers.

Those who would be well, should never omit exercise; few people employ it sufficiently as a medical agent. In cases of nervous and dyspeptic disorders, a degree of exercise, which at other times would produce lassitude, has been known to restore the parties to health.

If few persons know the advantage of exercise, still fewer understand the benefit of fresh air. Ventilation of rooms, too, is apt to be neglected, particularly in winter. The flywheels, called ventilators, are good things for close apartments. The diseases of manufactories and gaols are in a great measure produced by foul and stagnating air.

Many persons suffer from lying in close bed rooms, and I have often recommended a small portion of the upper part of the window to be kept open, with great advantage, to those who are weak, or are liable to headaches in the morning. Seven hours sleep is sufficient for grown persons.

Rule 5.—*Of Quietude and Ease of Mind.*

The subject which would next present itself in the natural order in which I have been considering the sources of health and disorder, comprises the various effects of the mind on the constitution. Mental anxiety, sorrow, and grief, originating in external causes, have a tendency to disorder the brain and nervous system, and the most calamitous states of general bad health often arise from such as are called mental causes. I shall content myself with advising that, whenever the digestive functions and general health be

disordered, a more than ordinary attention should be paid to the state of the patient's mind : all causes of trouble and vexation should be removed as much as possible, while those which produce mirth, or conduce to ease of mind, are strongly to be recommended. On the other hand, when from business or other causes, perplexity or depression of mind become unavoidable, the greatest care should then be taken of digestion, the food should be light and scanty, all strong drinks avoided, and the sedatives resorted to ; for when once anxiety and indigestion begin to operate on each other reciprocally, constitutional melancholy and hypochondriasis are apt to be the consequence.

RULE 6.—*Of Fasting and Abstinence—intended only for the Use of those who desire to observe the Fasts of the Christian Church.*

I come now to the consideration of practices which operate both on the body and on the mind, fitting us, in a high degree, for corporeal and intellectual exertion, and preparing us for meditation on the most profound subjects of human speculation. I do not mean to detract from the religious merit of penitential fasting and austerity, when I assert that these salutary observances may be rendered as useful to the bodies of those who are desirous to be strong, as they are to the minds of those who are devoted to study. For I can see no reason why both objects should not be blended together ; since one great effect of abstinence and fasting is to set the body free from temptations to indulgence, and to relieve the organs of sense from oppression, and thereby to render the mind of the penitent more fit for intellectual exercise. Nor can I help thinking that this double object was originally contemplated in the institution of fasting ; since it is a custom which has prevailed more or less in almost every country, not being confined to Christianity, but being found, combined with ablutions and other wholesome practices, among Musselmen, Jews, Indians, and indeed almost every nation of antiquity.

The proper employment of exercise is a great assistant to abstinence, for by walking *before* dinner we prepare the stomach for our meals, and digestion is better performed. It is a wise regulation of some of the reformed Orders of St. Benedict to enforce a daily portion of bodily labour. The bath, too, is always a useful and cleanly habit: we do not use warm baths often enough in these latitudes. Warm and tepid baths keep the pores of the skin in a healthy state, and may prevent many cutaneous obstructions.

I am convinced by the most elaborate researches into the subject, that there is a very close connection between corporeal austerities, and power of mind : both have flourished,

and both have declined together; they have gone hand in hand in past times, signalised by the most stupendous energies of science, learning, and sanctity; and the frivolous age in which our lot is cast, affords a melancholy example of their cotemporary destruction. But I shall confine myself here to the medicinal utility of such practices.

I would observe in the first place that if our fasts had been ordained by a council of physiologists, they could not have been better timed, and adapted to the necessities of the case, than they are at present.

The two Days of Abstinence prescribed by the Christian church, in each week, will by all be admitted to be wholesome: occasional abstinence is known to be better than habitual low feeding; it affords to the stomach a useful alterative from our customary heavy food. This periodical restorative is a great improvement on ordinary temperance; and it is best done where it is done in the completest manner, by making a very light tea meal instead of a dinner. Baron Maseres, who lived to be near ninety, and who never employed a physician, used to go one day in every week without dinner, eating only a round of dry toast at tea. This may not suit everybody, but it is well adapted for those who might otherwise be tempted to risk the indigestion of a full watery dinner of fish and vegetables. Others might take the light sorts of puddings with advantage, but I am persuaded that people in general who complain that they cannot abstain, are beguiled into this belief, by mistaking the means: they should diminish the quantity as well as change the quality of their food, and then even the less digestible sorts would have a greater chance of being overcome by the powers of the stomach. Another important fact may be mentioned with respect to abstinence—that where the vegetable diet seems to disagree, the popular *pills of rhubarb and ginger*, now kept prepared by every druggist, may be taken with great advantage an hour before dinner. Where the bowels become costive, a pill composed of *three grains of rhubarb and two grains of aloes* may be substituted. Persons who have weak stomachs, or particular antipathies, should try a variety of things till they find what agrees with them best. A change in diet is better than living too much on one thing; and thus we see why if a constant diet of vegetables were injurious, such a diet occurring periodically, would be a salutary alterative, even if its imaginary inconvenience were really greater than it is.

Fasting is a greater trial than abstinence, and therefore it has been recommended not to fast on one meal a day, nor to go twentyfour hours without food as the Jews do, but to eat a small quantity of bread, biscuit, or something solid for breakfast, and if wanted, the same again at tea, having had

a satisfactory repast at dinner. I believe this combination of fasting with abstinence to be a very good thing, and to be very useful to those whose affluence enables them on ordinary occasions to live well. I shall now say a few words on the periods of the fasts; for they seem to me to have been judiciously selected and fixed for those times of year when they would be the most beneficial. And first of all, the Lenten Fast occurs at a time when depletion has always been reckoned desirable, and for many persons necessary. After this fast got into disuse in the 16th century; the habit of bleeding, in the spring and fall of the year, became more general. But surely this unnatural mode of lowering the system, by draining away the fluid of life, cannot be so salutary as the milder method of diminishing the quantity and lightening the quality of our food, accompanied, as it ought occasionally to be, by mild opening medicines, taken at intervals, or according as necessity may require.

Some few persons, from habit, cannot fast without assistance; but I will venture to say, from past experience, that I could enable ninety nine out of every hundred to do it, if they really wished it, not only with safety, but with advantage, by examining first their constitution, and then modifying their food and medicines accordingly.

As the Fast of Lent is a useful alterative in spring, so is the little Fast of Advent a good substitute for the old silly custom of bloodletting again in autumn. It prepares us likewise for the feasts of Christmas and the New Year, just as Lent does for those of Easter and Whitsuntide; and we enjoy the return to the festive circle round the wassail bowl, ten times more than the puritan does, whose gloomy and imaginationless mind exhibits, in its never varying dullness and density, the effects of the gross food which he lives on all the year round. The fasting days too, which occur on the vigils of feasts, are useful preparations; they not only produce great power of watchfulness and mental exertion during the vigil, but prepare for the festive enjoyment of the next day.

When Sir Isaac Newton was writing his *Principia*, he lived on a scanty allowance of bread and water, otherwise he would not have achieved his undertaking. What are the literary productions of the present day, compared with those of our ancestors, who practised fasting and austerity? Our boasted march of intellect is become rather the fandango of frivolity. Literature and science are now less intensified, though more expanded than formerly, and I ween, that one sheet, to use the poet's phrase, of sterling midæval metal, fused out into modern brass, would fill volumes of trifling tracts and pennyworth's of learning. It was the abstinence, fasts, and rigorous discipline of our ancestors, that rendered the native genius of their great men

an available fountain of knowledge. S. Jerome, S. Basil, Tertullian, Porphéry, and other writers, have therefore been justly eloquent on the subject of these healthful practices.

The high average longevity of the Poor Clares, the Carmelites, the Trappists, and some other religious orders, who observe the more severe fasts and abstinences, show that such practices conduce to permanent strength, free us from that premature decrepitude and loss of sense, so much dreaded in the approach of death, and insure us, *volente Deo*, all those delights, even to the last, which Cicero seems by his book *De Senectute* to have been so nervously anxious to believe in. Some false reasoners adduce the case of old drunkards, to prove that debauchery is not the cause of disease. But these are rare instances, and a closer enquiry will convince any one, that redundant stimulus and repletion in youth, is the cause why so few people live to the natural term of life. Cornaro, who only began a course of temperance at forty years old, reached a prodigious age by perseverance in it. And it may be observed in proof of the use of temperance, that the poor who work hard on a moderate supply, where they can get enough to satisfy hunger, are much more healthy than their rich neighbours.

FINIS.

ESSAY.

AT a time when a pestilential epidemic is making a fearful progress over a large portion of the civilized world, I trust that no apology need be made for any additional information, offered to the public, on its origin and treatment, and that, notwithstanding the vast quantity of desultory speculations which have issued from the press on the subject, the following practical remarks and observations, founded on historical evidence, will not be considered as superfluous.

I shall avoid all needless introduction, and at once divide the subject, for the ease of reference, into three distinct sections:—1*st*. *On the Causes of Cholera Morbus and other Epidemics*; 2*nd*. *On the peculiar Symptoms of Cholera Morbus and other Epidemics*; *and* 3*rd*. *On the Treatment of Cholera Morbus and other Epidemics, as regards Prevention and Cure.*

A long acquaintance with the history of epidemics, and repeated examination of the detailed accounts of writers, together with my own observations in different countries, have conduced to the opinion which I hold, that these popular disorders are all, as it were, members of one family, the symptoms of each particular complaint varying in different countries, and in different periods, according to essential varieties in the exciting cause, which I believe to belong to certain conditions of the atmosphere which traverse the surface of the globe, according to peculiar and hitherto little understood laws, like other phenomena of which the air, in its various states, appears to be the vehicle. But whether these causes of disease result from qualities imparted to the insalubrious air itself?—Whether they depend on specific

impregnations of foreign substances,—or on the generation and spread of peculiar animalcula? are questions which positive proofs are still wanting to solve; and of which the solution has hitherto derived but little aid from any reasoning from analysis, or the application of the doctrine of probabilities to the store of facts already gathered together.

I have, therefore, sought in this essay to curb my natural inclination towards hypothesis, in order to avoid error, and have advanced no doctrines but what are of a practical nature; nor attempted to establish any opinions of my own, except such as can be shown to be founded on the solid basis of experience, or the well established history of the disorder in question.

My object is to expose the fallacy of the dangerous and absurd doctrine of contagion, and to show that Cholera and other epidemics depend on exciting causes, which are atmospherical, and over which quarantine and other measures of pretended defiance to the disease have no real controul; and that all that sanatory regulations can do is to fight with the predisponent causes, by preparing the body against the disorder, by ventilating apartments, by removing filth, and by adopting such fumigations and other correctives as experience has proved to be useful. After discussing the causes of Cholera in the first and the symptoms in the second section, I shall proceed in the third to point out some of the best of these sanatory rules, in order to put the public in the fittest state of defence against the possible, though as I hope, improbable occurrence of the complaint.

If the reader get tired of the discussion of the causes and symptoms of Cholera, he may glance hastily over the two first sections, which are principally addressed to medical men; but to the third or practical part I request particular attention.

Sect. 1.—On the Causes of Cholera Morbus and other Epidemics.

Perhaps it will be best to state at once my opinion on these disorders, and then the subsequent facts and observations will show what reason I may have for entertaining it. It seems then that this disorder, and all others of similar kinds, depend on a specific external excitement, which falling, as it were, on the people from above, have on that account been called Epidemic, in contradiction to another class of disorders which, inhering in the constitutions of certain races and nations, are called Endemic: the former fall on the whole people at uncertain intervals, and select their victims among the weak and predisposed persons; the latter are like heir looms in certain families and tribes; these cut off in the course of generations the weakly born subjects, or those who subsequently provoke the latent disorder by bad habits. There is yet another class of diseases which partakes of the character more of the former, as they seem dependent on the air or soil of particular parts of the world, and what might be distinguished as Topical Epidemics, as the elephantiasis in Egypt and many others. It will be seen below that Lucretius, Virgil, Ovid, and other poets, as well as the medical writers of old, have described all these disorders with great accuracy, as I shall presently show.

None of the above disorders appear to be propagated by contagion; on the contrary, they break out, in a vast number of cases, in a long line of villages and towns all at once, as if by the sudden influence of the atmosphere; but then, after the disorders have been once excited, certain varieties of them may be afterwards in some instances propagated by inoculation, as the small pox; or by contact or proximity, as the plague and some other fevers; but in the majority even of these disorders, the only danger from proximity to the patient arises often from a predisposition to

the disease, or from the want of a free ventilation; in the latter case, the exhalations from the bodies of the malades serve to enhance the evil of the prevailing malaria, and thus subject the attendant to a greater chance of catching the disorder, while he is waiting on the patient. Those persons who attend only to this mode of getting the disorder, take up hastily the doctrine of contagion, forgetting at the same time to notice the more general source of the malady which is already abroad. This is precisely what has happened with regard to Cholera Morbus, and in this view of the subject I am supported by the principal sanatory councils of Europe, who have at length abandoned the vexatious restrictions of quarantine, and are by degrees breaking up their cordons sanitaires.

But before I proceed to show how greatly authority preponderates on the side of the doctrine which I maintain, I shall submit to the reader the following facts in the history of Epidemics, which facts are wholly irreconcilable with the doctrine of contagion; but are capable of being easily explained, on the supposition of peculiar stimuli existing in the air. I grant there is still a difficult question left unanswered; namely, what these morbific states of the air actually consist in, and why, at different times, such very different symptoms should be excited by atmospherical causes. That on the most ordinary occasions atmospherical changes affect both the health and spirits is well known, and in many instances it seems that the electric state of the air is the principal agent: the pain felt in the head, in the teeth, or in any weak or injured part of the body, before thunder storms, is a familiar illustration of the influence alluded to: the feverish headaches and listlessness felt by many persons on the occurrence of east wind is another; nor ought we to overlook the sudden effect on the digestive organs and general health produced by change of situation and of air. But still in cases of Epidemics of a decided and peculiar character, we

must look for something more than this general influence; for since philosophy shows that there must in reality be as many causes as there are effects, and as all the known epidemics differ from each other in their symptoms; so we must admit the existence of an almost infinite variety of morbific qualities inherent in the insalubrious atmosphere on different occasions. At one time small pox rages epidemically and devastates a whole country, as in 1773 in England and Scotland; at other times measles, hooping cough, or scarlet fever prevail, sweep along in a certain course, and at length disappear.

One thing with regard to epidemics ought to be particularly noticed as pointing out a sort of progressive malignity in the infecting air; it will be found that epidemics of the milder sorts precede, follow in the train of, and also circumvade the central pestilence; thus after there have been various fevers in any given place, at length a more decided pestilence comes, and in its outskirts again the lesser epidemics prevail. Now I ask—How is this circumstance to be explained, if we admit the origin of these disorders to be from contagion? Does not this gyration of epitomes round a central disorder of greater malignity, strongly bring to our mind the manner in which whirlwinds, and storms which are whirlwinds of greater extent, usually take place; and force us to conclude, from analogy, that the morbific atmospheres in question may obey laws analogous to those of atmospherical phenomena, of which electricity is the agent. During the late central fever at Gibraltar, other places in its vicinity, on the Continent, were afflicted with slighter Epidemics. And on the present occasion, while the more severe symptoms of Cholera Morbus were successively afflicting Russia, Poland, and Prussia, its epitome appeared in France, Germany, and England, in the form of bilious diarrhœa. I could enumerate the same sort of thing in twenty or more instances. Now there is nothing in this that looks like contagion; it is, on the contrary, analogous to well

known facts in meteorology, and reminds us of the gentle wetting which those get who are lightly touched by the skirts of a shower, while persons who happen to be under its centre are drenched to the skin with water. Again, when an electrified cloud passes over our heads, the effects produced on those situated under its central parts, differ from the influence exercised by its outskirts on the nervous system of persons who may be below them. I do not pretend, by this analogy, to infer that the direct agent in pestilence is some modification of electricity, though there are very striking facts which favour this opinion;* but I contend that the cause is derived from some peculiar condition of the air.

The variety observable in different Epidemics is so great that many persons have ascribed them to different species of invisible insects, each kind having an appetency for some particular part of the body; so that on one occasion the air shall be infested with a moving phalanx of animalcula which seeks the gall, or liver, and produces Cholera; while on another occasion our diminutive enemy, being of another sort, attacks the skin, in which it makes nests, occasioning pustules and eruptive Epidemics. These insects might move in large bodies in the air, taking a particular course, either with or against the wind, according to their respective natures; and then, when they settled on predisposed lunar bodies, the progressive symptoms of the disorders occasioned, might correspond to

* If a division of the lunar month be made into four weeks, in the middle of each of which one of the four changes of the moon shall take place, then it will be found that what I call the lunar periods of irritability will occur in those weeks in which the new and full moons fall, and not in those of the quadratures. And what shows, as much as anything else, that electricity is the medium through which this influence is exerted on our planet, by its satellite, is, that earthquakes, volcanic eruptions, meteors, waterspouts, gales of wind, violent storms, and other known effects of the electric fluid, have been proved, by extensive enquiries that I have made, to have usually happened at those periods near to the conjunction or to the opposition of the moon.

The rustic sacrifices which the country nymphs of antiquity used to make to the young crescent moon, to which Horace alludes in Ode 23 of lib. iii. in order to avert pestilential winds, had probably a reference to the lunar influences which I have described above.—This influence of the moon, through the medium of the air acting on the brain, has given rise to the term *lunacy* and *mania*, applied to mad people.

the three or more progressive states of insect existence—the larva, the grub, and the fly! This notion, fanciful as it may seem, is not without its analogical probability: for, in those insects which are visible, and which occasionally infest our gardens, our flocks, and even our own persons, we find that large bodies of them come with a change of wind or weather, and on another change die or disappear. Let us only take an example from peculiar blights, as they are called.

It seems to be one of the characteristics of insect life, that they prevail in particular seasons, and at certain times of year, in prodigious numbers: in 1826, for example, lady-birds swarmed all over England and other parts of Europe; that they travelled in bodies high in the air is also proved, because the domes of St. Paul's and other lofty churches were covered with them; they stayed for a time and then disappeared. In some seasons wasps, in others beetles, in others flies of specific kinds, become perfect pests from their numbers. All our extensive blights, from those which are visible as insects, to those which can hardly be seen with a magnifying glass, make the same uncertain visits. And what is more remarkable, it has been found that pestilence is more prevalent in seasons which are marked by an unusual quantity of insects! Do we not read of the same thing in ancient times, when the plague of flies, the plague of darkness—doubtless atmospheric—the plague of locusts, the plague of blotches and blains, the murrain of beasts, and the blight producing famine in corn, all visited Egypt in close succession? I could relate numerous examples of this kind which have happened in various parts of the world. What is there like contagion in all this? But this question leads naturally to another, namely—What is meant by contagion? For some persons would explain contagion, and even the specific effect of animal poisons which reproduce their own peculiar matter, to the sudden invasion of insects who seize

on any body in contact with the one which they occupy, and colonize it! On this supposition indeed, we might in some measure reconcile the double mode by which Epidemics, in some cases, seem to be propagated. For if pestilential animalcula come in the air and fix on the bodies of living beings, their subsequent escape to neighbouring persons might well be facilitated by proximity or contact. However, this part of the hypothesis is unnecessary; for positive facts are all against the notion that Epidemics are at all dangerous to those who approach infected persons; otherwise than this, that if the malaria still remain in the space round the patient whom it at first infected, any one who invades it may become a prey to its malignity, merely from entering either into a current, or a confined volume of morbific air.

There is yet another notion respecting contagion which is still more absurd, namely, that it can be communicated in goods, letters, and parcels of paper, to distant parts. The simplest calculation of probabilities is sufficient to show, that if this were the case, the world must have been almost depopulated by this time, from the universality of such communications. This doctrine would indeed make Mercury a messenger of woe, and convert the blessings of the post into a propaganda of pestilence: the idea too is hardly credible, even on the assumption that insects are the cause of disorder, and that they lodge themselves in the article said to convey the disorder; and I confess, after much research, that I cannot find well authenticated cases of disorder propagated in this manner. When fortune casts her lot of chance, coincidences will happen which are mistaken for causes; but beyond this, there is nothing but imagination in the opinion alluded to. Persons in the Levant have been known to wear, with safety, the old clothes of those who have died of the plague.

The direct proof that we possess that electric changes

produce symptoms of disorder in some instances, does not militate against the supposition that in others, specific disorders are produced by insects ; because it is known that the generation of most tribes of them is closely connected with winds, weather, and electricity. If a blight suddenly coming over with a scowling eastern breeze, shall leave particular species of plants in our gardens, and even particular parts of them, a prey to specific vermin, I ask—Would not analogy lead us to expect that where peculiar states of weather affect parts of our bodies, it might also be through the medium of similar animated agents ? Full nature swarms with life, and the microscope has opened to the view of the naturalist, myriads of hitherto unknown tribes of animalcula inhabiting every variety of texture of the human body, and every morbid secretion from its vessels ; and proving that in the boundless distribution of animal life, from the whale or the fabled behemoth to the smallest ephemera, nature abhorring a vacuum of life and intelligence, has peopled every particle of matter with animals. I shall pursue this curious subject no further, nor stop to enquire—Whether the dry epidemic cough, for example, of last midsummer, was occasioned by particular insects which made choice of the glottis ?—Whether it was caused by an air impregnated with some particular effluvia, which had a chemical affinity with that organ ?—or, Whether it resulted from some electric quality in the air itself, which had a specific action on certain organs ? I know that direct proofs are wanting to solve these questions ; and I therefore content myself with the conclusion that whatever may be the nature of the agent, it was external, and came in the air ; that it attacked hundreds at once in different places, and was not communicated from one person to another, but subsided after a limited period, in a manner and from causes quite as obscure as those which originally produced it. And I assert the same, on the strength of long experience and research, of every other epidemic with which I have become acquainted. The speculative opinion put forth about insects may however

serve to suggest some new sanatory regulations, such as the rubbing of the skin with camphor, oil of cajeput, and other drugs, known to be repulsive to insects, and also the use of smoking tobacco, and the employment of many other powerful fumigations. But beyond this, speculation is rather hurtful to the practical man, by enticing him away from his object, into the wide but delightful fields of philosophical enquiry. My object is to overthrow, by the force of well established facts, the dangerous doctrine of contagion, a doctrine calculated to frighten selfish man away from his duty to his fellow creatures, and, in minds not possessed of uncommon fortitude and principle, to render abortive all those precepts of charity which teach us to live for our neighbours as for ourselves.

In furtherance of the above desirable object, I will submit to any reader capable of reasoning, whether the following facts are not wholly incapable of being explained on the principle of contagion; and whether they do not evidently belong to that class of phenomena, of which the occasional or the periodical vicissitudes of the atmosphere which surrounds our globe, are admittedly the causes, however obscure may be the manner of their operation?

The origin of epidemics, if not derived from the air, is unknown; as on the supposition of specific contagion, it would remain a desideratum,—what gave rise to the first case!?

The effects of Epidemia are infinitely varied. I remember at Oxford, some years ago, seeing a case of an Epidemic, which consisted in the mortification of the thumb to the first joint, and attacked nearly a whole village.

Being at Melun in France, in July, 1822, I witnessed cases of an epidemic croup, which had attacked nearly all

the children in the neighbourhood at one time for miles round, and of which many had died.

There is scarcely a disease which has not at some period or other become epidemical; nor is there a part or limb of the body that epidemia has not selected as the seat of disease. *Cholera Morbus* is only one of a numerous train of biliary and other fevers, which have been epidemic at some period or other, its origin being like theirs, obscure, its course various, and its subsidence uncertain. Authentic instances of its being imparted to attendants, from the patients, are actually wanting, and the belief in such alleged facts can only be ascribed to that sort of delusive credulity by which men of ignorant and mystifying minds are induced to give credit to talismans and charms, or to believe in the effects of sorcery, incantation, and witchcraft. I have examined the reports from India, Russia, Prussia, Poland, and Austria, and cannot find one case that in the least favours the silly doctrine of contagion.*

Dr. Albers, head Physician to the Prussian Medical Commission, in March last, reported that at Moscow, in many houses, it happened that one individual attacked by Cholera was attended indiscriminately by all the relatives, none of whom caught the disease, and all the nurses remained free from it.

The Moscow Committee reported that "at the opening of bodies of persons who had died of the Cholera, to the minute inspection of which four or five hours a day, for nearly a month, were devoted, neither those who attended at these operations, nor any of the assisting physicians, nor any of the attendants, caught the infection, though scarcely any precautions were used."

* Dr. Maclean relates of the plague in Turkey, that those who attend the sick never catch it, if only fresh air be admitted into the chamber during the interview.

M. Searle, an Indian practitioner, who saw the disease on an extensive scale in the East, and suffered from it himself, went to Moscow, and lived in the hospitals there. He declares his conviction that Cholera is not contagious. All, or almost all, cordons and quarantines have been abolished in those countries where the Cholera has been witnessed, and the disease is not now half so much dreaded at Hamburgh, where it prevails, as it was when it was no nearer actually than Moscow.

When I was at Paris last September, I presented to the *Conseil Sanitaire* there, my larger work on Epidemics; and I am glad to perceive that the opinion has been adopted in that capital that Cholera is not contagious, and that the sanitary cordons are useless. When a patient has been enabled to change the air by removal, the cure has frequently been almost instantaneous. These are convincing proofs that Cholera is not contagious. I could adduce many others, but I shall go on with an analogy with which I will wind up the great presumptive evidence of the atmospherical nature of this as well as other epidemics.

There appears to be a gradation of similar disorders affecting, on different occasions, all the tribes of plants and races of animals, as well as the generations of men. Certain features are common to all these cases; and while we cannot allow contagion to be the cause of such diseases among plants, we cannot anywhere draw the line between two approximating cases all the way up, through every variety of amimal to man himself. This is a circumstance of great importance in the history of pestilence.

In the course of the subjoined examples, it will be seen that I am backed up by authority, both ancient and modern, for the view I have taken of the causes of the epidemic disorders in question.

Plants appear to be affected by peculiarities of the atmosphere during Epidemics, and hence it happens that famine, as well as pestilence, murrain of beasts, inordinate increase of vermin and insects, and other such things, have occurred together, or in succession, in Epidemic periods, as was the case in the plagues with which Pharoah was anciently visited in Egypt. Obscure qualities of the air affect plants alone on other occasions. In the summer of 1810, almost all the roughbarked plane trees, *Platanus occidentalis*, became diseased in the neighbourhood of London, and for many miles round; very few of which, in comparison with the whole number decayed, recovered; while the smoothbarked plane trees, *Platanus orientalis*, and sycamore trees, *Acer pseudoplatanus*, remained healthy. The same fact was noticed also in distant countries. The season was not either remarkably hot or very particularly dry; but there were all those circumstances alluded to above, as denoting an unusual state of the atmospherical electricity. I can relate many cases of other trees being so affected, and of particular species of plants which have been as it were selected as victims of the individual season. I have found that in nursery grounds some classes will be cut off, and others escape, in one year, and yet on another occasion the converse shall take place. This may be in part connected with modifications of electricity, and perhaps their appropriate insects. In proof of this, I may observe that I have found hail and snow, so generally the vehicle of electricity, to be more conducive to early vegetation than a warmer air, in a dry spring, or one which was attended by much unwholesome non electric rain. The learned Abbé Bertholon goes further, and asserts that plants growing near to conductors of atmospherical electricity flourish better than those that are distant from them; and he relates one remarkable instance in France in which some jasmin shrubs were planted against the side of a house, down the side of which was carried a metallic conductor of lightning. Of these jasmins, those

which grew near the insertion of the metallic rod acquired three times the size of the others, and extended so high as to reach the upper windows.

Another proof of even the periodical influence of the atmosphere on plants, analagous to the ephemeral symptoms in human beings, is what is called Flora's Dial, a circular piece of ground planted with certain species of flowers, regularly arranged according to the particular hours of the day or night at which they are known to open and close their blossoms, so as to enable us to learn what is o'clock, by a sort of botanical horologe.

Epizootie comes next to be considered; by which flocks and herds are suddenly carried off or diseased by atmospherical pestilence. A few years ago, in Essex, prevailed a mortality among cats, which carried off considerable numbers. And the well known history of the cats who died of *parotitis felina*, about Haywood, in Staffordshire, including the whole of a fine breed of Persian cats, is related by Dr. Darwin, in his Zoonomia. A similar pestilence once prevailed extensively in Holland, which destroyed this useful animal very extensively. The mange is said to be contagious; but if this be the case, it is one of those disorders which, arising from unknown causes in a great many animals at once, may be afterwards propagated by contagion. The same mode of reasoning seems applicable to the glanders of horses, to scabies, and to many other distempers of cattle. The whole history of epizootie, the murrain of beasts, and indeed all the pestilences which have befallen kine, of which history has recorded numerous instances, are illustrations of the effect of peculiar conditions of the atmosphere acting in an occult manner on the animal machine and inducing, at different times and seasons, very various and dissimilar morbid phenomena. Many cases of the kind will be found in the "*Electricité des Meteors*," by the Abbé Bertholon,

Lyons, 1787. Animals, too, show that, like men, they are immediately sensible of the electric and other changes of the weather, as our popular prognostics prove. These indications are well known to the husbandmen in all countries. I have collected a great many in my *Illustrations of Atmospheric Phenomena*, which are popular in our country, and I have collated these with the remarks of the old Greek and Roman writers, in *Notes to the Diosemeia of Aratus*.

Epizootie is often shortly followed by Epidemia, as was noticed by the Greek writers. Homer in one book of the Iliad, sings of pestilence in a very remarkable passage, wherein he describes it as the arrows of Apollo, first fixing on mules and dogs, and then on men.

Οὐρηας μεν πρωτον ἐπωχετο και κυνας ἀργούς
Αυτὰρ επειτ αυπῦ ισι βελος εχεπευκες αφιεὶς.

The plague of Aegina, according to Ovid, Met. vii. 529, was a remarkable exemplification of the atmospherical cause of pestilence: it began with a long continued south wind, an air full of dark vapours and electric phenomena, the great abundance of serpents followed, and a disease which destroyed birds, dogs, and other domestic animals, and lastly human beings, by thousands. The author has described the symptoms very accurately, as following the state of the air.

Principio coelum spissa caligine terras
Pressit et ignavos inclusit nubibus aestus.

The plague, he says, first began with birds and cattle, and then attacked man, as is frequently the case.

Strage canum prima, volucrumque oviumque boumque
Inque feris subiti deprensa potentia morbi.
Concidere infelix validos miratur arator
Inter opus tauros, medioque recumbere sulco.
Lanigeris gregibus balatus dantibus ægros
Sponte suâ lanæque cadunt, et corpora tabent.

Acer equus quondam, magnæque in pulvere famæ,
Degenerat: palmas veterumque oblitus honorum,
Ad præsepe gemit, morbo moriturus inerti.
Non aper irasci meminit; non fidere cursu
Cerva; nec armentis incurrere fortibus ursi.
Omnia languor habet: Silvisque, agrisque viisque
Corpora fœda jacent. Vitiantur odoribus auræ.
Mira loquor. Non illa canes, avidæque volucres,
Non cani tetigere lupi: dilapsa liquescunt,
Afflatuque nocent; & agunt contagia late.
Pervenit ad miseros damno graviore colonos
Pestis, et in magnæ dominatur mœnibus urbis.
Viscera torrentur primò; flammæque latentis
Indicium rubor est, & ductus anhelitus ægre.
Aspera lingua tumet, trepidisque arentia venis
Ora patent; auræque graves captantur hiatu.
Non stratum, non ulla pati velamina possunt;
Dura sed in terra ponunt præcordia: nec fit
Corpus humo gelidum, sed humus de corpore fervet.
Nec moderator adest: inque ipsos sæva medentes
Erumpit clades; obsuntque auctoribus artes.
Quo propior quisque est, servitque fidelius ægro;
In partem leti citius venit. Utque salutis
Spes abiit, finemque vident in funere morbi;
Indulgent animis: & nulla, quid utile, cura est:
Utile enim nihil est. Passim positoque pudore,
Fontibus, & fluviis, puteisque capacibus hærent:
Nec prius est extincta sitis, quam vita, bibendo.

The plague of Rome of the year anno. R. 281, described by Dionysius Hallicarnassensis, came on quite suddenly, was very limited, and as suddenly disappeared, like the plague of Athens, described by Thucydides. Some modern plagues have been equally rapid in their course.

There are some circumstances concerning the plague which followed the battle of Salamis worth noticing. A comet, and a violent eruption of Aetna, preceded it; and it led

to an enquiry, founded indeed on the then general belief that comets rouse the fire of volcanoes, and also bring violent heats and pestilence in their train. The pestilence alluded to carried off most of the remaining army of Xerxes after the said battle.

Greece was anciently less subject to epidemics than Italy : nevertheless when Greece has been visited by pestilence it has been often very violent. Rome has been remarkable for its numerous epidemics, and it was in one of them that St. Aloysius perished in the flower of his youth, in the year of our Lord 1581, early in the morning of the 21st of June. The Campagnia di Rome still continues the frequent seat of terrible influenzas and fevers, particularly towards the close of the summer. The following lines, said to be preserved by Baronius, show the almost proverbial unhealthiness of Rome in ancient times.

Roma vorax hominum domet ardua colla virorum ;
Roma ferax febrium necis est uberrima frugum.

The famous lake Avernus, in Campania, was so unhealthy in its vapours that even birds avoided its banks, and the ancients from its pestilence feigned it to be the way to hell. It was the state of the air in Rome so ill adapted for carrying off odours that gave rise to the cloaci, and subsequently to the feigned goddess Cloacina. At Rome the festivals of the *Lectisternia* were instituted to appease the gods during the pestilence of V. C. 353.

In the 12th book of Livy is a most vivid description of a pestilence that began among cattle in U. C. 576, which soon extended to men. Febris now seemed to trample every thing before her, even bulls, dogs, and all sorts of domestic animals ; the highways were strewed with dead carcases so offensive that the vultures left them untouched to decay, and Libitina being overdone with unwonted labours, and un-

equal to her office, the air, itself in a state of pestilence already, was still further loaded with the stench of disorganizing mortality. Numerous birds left the suburbs of Rome, during this plague, as they had formerly done during those of Athens. This desertion of places infested with the more violent forms of pestilence, which is a fact well known in natural history, is worthy of particular notice, as it shows that the whole air is infected, and disproves the silly notion that pestilence owes its spread to contagion. To which we may add, that the vaporized atmosphere prevalent during the time of plagues often produces, by its peculiar refracting properties, those crowns of light, parhelia, and luminous arches, described by historians as signs of destruction. The bow seen to cross the temple of Saturn in the time of the above plague was probably one of this sort. Thirty or forty similar instances are on record of plagues that have happened in Italy, in Egypt, and in Asia Minor, which have been accompanied by extraordinary lights in the sky, and which have ravaged the earth and inhabitants to so prodigious a degree as to leave do doubt on the mind of any reasonable man that they must have been powerful agents in the work of desolation and ruin, to which ancient empires have been subject.

Besides occasional pestilence, it seem that there is some peculiar influence exerted on the body in particular parts of the world, in consequence of which, in certain countries, particular diseases will always become prevalent, which may be ascribed to some local peculiarity of the atmosphere. Lucretius, who was an accurate observer of nature, thus describes occasional, as well as established local epidemia, and endeavours to account for the former as follows :—

Nunc ratio quae sit morbis, aut vnde repente
Mortiferam possit cladem conflore coorta
Morbida vis hominum generi, pecudumque cateruis,

Expediam. Primum multarum semina rerum
Esse supra docui, quae sint vitalia nobis;
Et contra quae sint morbo mortique, necesse est
Multa volare: ea quam casu sunt forte coorta
Et perturbarunt coelum, fit morbidus aër.
Atque ea vis omnis morborum, pestilitasque
Aut extrinsecus ut nubes nebulaeque superne
Per coelum veniunt, aut ipsa saepe coorta
De terra surgunt, vbi putrorem humida necta est
Intempestiuis pluuiis, et solibus icta.

Again, in allusion to the latter or local epidemia—

Est Elephas Morbus qui propter flumina Nili
Gignitur Aegypto in media, neque praeterea vsquam.
Atthide tentantur gressus, oculique in Achaeis
Finibus: inde aliis alius locus est inimicus
Partibus ac membris; varius concinnat id aër.

Virgil, the imitator of Lucretius, observes:—

Hic quondam morbo coeli miserandi coorta est
Tempestas, totoque Autumni incanduit aestu,
Et genus omne neci pecudum dedit, omne ferarum,
Corripuitque lacus; infecit pabula tabo.

Of the above local Epidemic, history furnishes abundant examples, which I forbear to quote as being superfluous.

It is probable that there are different conditions of atmosphere perpetually moving about, which act as specific stumuli and excite corresponding peculiar diseased nervous actions, which actions are still further varied in each individual case, by the predisponent or state of constitution of the patient, and I think it probable that many colds and lesser diseases, though unsuspected, are in fact obscure epidemics.

Parts of the world are visited by the plague at very short intervals, while the same disorder appears more rarely in

other places. The small pox rages for a time throughout whole tracts of country, but the symptoms of this epidemic are different in one season from what they are in another: which proves some external cause of variety.

The pious processions and prayers which have of late been offered up in many Christian countries to God, to avert the Cholera, are the remains of a very ancient usage, founded on the belief that these disorders were scourges, as they were demonstrable not contagious; and while religious men were ascribing them to Heaven; the astrologers set them down to the influence of the stars and comets.

It may be remarked that some of the ancient Christian hymns and orations, used in times of epidemic pestilence, were prayers that the sidereal influences might be repressed. Thus, in the petition to our Lady, beginning "*Stella coeli extirpavit, quæ lactavit Dominum,*" &c. we have the words, "*Sidera compescere.*"

I must now mention a fact of which I have received numerous and authentic accounts, because it proves beyond everything else the atmospherical origin of epidemics. Before the breaking out of pestilence, particularly in the East, an unusual obscurity of the atmosphere, accompanied with strange coloured refractions of the sun's light, has been repeatedly observed; besides luminous meteors and other phenomena referrible to the state of the air. Ancient authorities also concur in this remark; and the plague of darkness which visited the Egyptians during the Jewish Captivity is justly considered by a late American writer as a case in point. I shall allude again to this circumstance, when, at the close of this section, I describe the phenomena that have accompanied the spread of the present Cholera Morbus, to which I invite the reader's particular attention.

In the mean time I will proceed to examine a few more cases in point, taken from an ample store of historical records, which I have long been gathering on the subject of pestilence. I might go as far back as the famous plague of Athens, described by Thucydides, which was preceded by darkness and extraordinary electrical phenomena; or, descending to more recent times, I might instance the prodigies that forerun the great plague of Florence, so eloquently described by Boccacio. Who is ignorant of the portentous appearances of the sky, which occurred before the great pestilence about B. C. 44, and which the superstitious flatterers of princes in those days regarded as prophetic of the death of Cæsar; when, as Virgil says, *Sol etiam extincto miseratus Cæsare Romam, cum caput obscurâ nitidum ferrugine texit*, or as Ovid more aptly has it, *Phœbi quoque tristis imago Lurida sollicitis probabat lumina terris.* At the same time we are told *Nec diræ toties arsere cometae?**

About 30 years B. C. Jerusalem was devastated by a pestilence which, according to Dion Cassius, followed a comet. At the same time was an overflowing of the Tiber, and an epidemic at Rome, which followed the hard winter and unusual misplacement of phenomena, to which Horace's well known Ode, beginning *Jam satis terris nivis, &c.* alludes. The poet, persuaded of solar and lunar influence over these events, in Ode 21 to Apollo, soon after, describes the benign influence of the sun, in a beautiful play of

* The scientific Editor of that useful periodical, the *Lancet*, has taken me up hastily in a note in the No. for October 22d, for having speculated on the ancient opinion that comets were signs of pestilence. He says, "We are surprised that so practical a man as Dr. Forster should have even hinted at such a cause." Now, in fact, the notion was Kepler's and not mine; what I contend for is the disturbed state of the atmosphere in epidemic periods; and in alluding to the opinion that such disturbance was coincident with comets I never pretended, like the "philosopher," David Hume, that *coincidence* was *causation;* nor should I have mentioned it at all, only in searching into phenomena of an obscure origin, we are bound not to pass over with supercilious haste, any opinions which great men have held on the subject. I alluded to the great comet coming next year, merely as to a curious coincidence calculated to revive the ancient superstition.

metaphors. An. B. C. 25, Palestine was again deluged by plague, which was preceded by the slighter forms of epidemia; which fact helps us to prove the progressiveness in the intensity of the atmospherical poison, and to confute the absurd notion of the origin of pestilence by contagion.

I have before me, twenty or more instances, in more modern times, which I could relate if necessary, of pestilence in general, and even cholera in particular, being ushered in by similar portentous appearances in the sky.

France and England have several times been visited with an inflammatory epidemic called the Grippe, and during those years, the clouds and air have shown unusual electrical disturbance. The same thing happened this very year, when that epidemic skirted the English and French shores, and indeed prevailed also in the South of Europe, always being in the periphery of the more central Cholera Morbus. I noticed this myself, during a voyage on the Continent, made last August and September. I also collected authentic accounts from the South of France and Spain of extraordinary and sudden changes from heat to cold, colours seen in the air, and very peculiar refractions of the light of the sun, through the clouds, all which accompanied the introduction of the epidemic into those places. We met a gentleman on the road between Royè and Senlis, on the 3d of September, 1831, who gave us a particular account of these facts. On arriving at Paris, where the grippe prevailed, I found that the most unusual changes from heat to cold had been experienced.

But I cannot yet leave ancient history, replete as it is with facts which bear on the question at issue; I must again call the reader's attention to the constantly recorded connection between atmospheric phenomena and pestilence. In the reign of Nero, some say the year 69, a pestilence broke

out at Rome, which suddenly carried off above 60,000 persons. Tacitus says the houses were full of dead bodies; an earthquake destroyed Hierapolis at the same time; and Seneca relates that a vapour arose which in one place in Italy stifled 600 sheep. The Roman writers who commented on this plague said nothing of contagion, a doctrine then disbelieved, but made the remark that it was surprising no particular atmospheric meteors had been noticed; which was declared as an exception to the general rule.

The great epidemic plague, in the reign of Edward III. broke out almost simultaneously all over Europe, in a manner which would defeat every attempt to explain it by contagion; while proofs of its atmospheric origin may be drawn, from its having been preceded by small earthquakes in various places, a great plague of insects in China, and other unusual things. I find, that in the circumference of those cities which experienced the full force of the disorder, slighter epidemics are recorded; and what is more remarkable, in reference to our present discussion, is, that while the pestilence was carrying off 50,000 persons in London, nearly as many at Norwich, 100,000 at Venice, 90,000 at Florence, and in Spain 20,000; while, in short, all the warmer parts of Asia and Africa were also scourged by the plague, the N.E. of Europe was afflicted with Cholera Morbus, which, from the symptoms well known of a dark skin from venous stagnation, was called in Denmark the *Sorte Diod*, or black death. An epizootie followed in its train, and among numberless disorders of animals, I find that immense shoals of dead fishes were cast on the shores of Europe, all of which had specific blotches or sores on them, proving that the pestiferous quality of the air had affected the waters of the deep, a fact which I find often recorded in America. With regard to the origin of this general pestilence, it is impossible to ascribe it to contagion, for it was sporadic nearly all over the world at once; and Muratori, Pistorius, and all the writers thereon,

but particularly Boccacio, in his animated *Descrizione della Peste di Firenzi*, rightly ascribe this pestilence to the state of the air. Petrarch says, that few escaped it. Women in child bed were particularly singled out. Laura, the favourite of the poet, is said to have died of the epidemic which prevailed at that time.

In A.D. 1483, during a great change of atmosphere, first appeared the *Sudor Anglicus* or Sweating Sickness, which was said to be particularly severe in England, on account of the increased luxury of the times: this disease, by attacking those who fed well, proved how much the force of pestilence, originating in malaria, is augmented by the predisponent cause in the human body, and points out temperance as a necessary precaution.

In 1609, earthquake at Lima; eruption of Aetna;* plague. Sailors at sea were suddenly seized with calenture to a great extent. Thirty dead bodies in one day were thrown overboard in Sir Thomas Gates's fleet, bound to Virginia. In 1610 was a general influenza; a fiery arch seen in Hungary is recorded, similar to some of those large arcs of light which preceded the introduction of the present Cholera Morbus into Europe, and of which I have recorded one of prodigious size and grandeur, which stretched across Europe from west to east, 29th September, 1828.

In 1665 came the memorable epidemic, called the Great Plague of London. The previous winter had been severe and unhealthy, and various epidemics had prevailed all over Europe, when in June the plague appeared in London. The folly of believing that this plague had been imported was soon exposed, as it was found to have broken out in many parts

* See Muratori, Webster, and other writers. If I had space enough in these sheets I should record the remarkable fact, that the eruptions of Vesuvius, Aetna, and Hecla have been attended by severe epidemics in their vicinity.

of Europe at once, during the two preceding years. This plague threatened, after a temporary suspension, to return with its former violence in 1666, but it was apparently soon put a stop to, by the fire of London, of September 2d of that year, which might act two ways; firstly, on the *exciting cause*, by purifying the air, and secondly, on the *predisponent*, by its local effects on the city, almost desolated and in ruins. Earthquakes prevailed next year in America, and the plague and a dysentery in England. In 1668 was a dry summer, and malignant atmosphere in America, with the zodiacal light, accompanied by bilious fever. In 1670, mock suns in Hungary, with violent tempests, and a curious disease prevailed in Westphalia among cats, who had an eruption about the head, and died lethargic. In Norway, malignant measles prevailed epidemically.

It is remarkable that Sydenham has described, with accuracy, a succession of dreadful epidemics which prevailed in England about this time. Indeed the whole period, from the usurpation of Cromwell to the end of the 17th century, was as much distinguished by pestilence, and bodily diseases of all sorts, as it was by moral depravity, for both came together among the numerous ills that the luxury of the preceding century entailed on the country, by superseding the fasts and salutary habits of an austere catholic life, and thus augmenting the predisponent cause of pestilence, in the vitiated constitutions of that age of debauchery; in consequence of which the excitant which came in the air acted with redoubled fury.*

Those careful physicians who attended the plague, both in Arabia and in Turkey, have seldom caught the infection. In 1735, during the earthquake of Popayan, a severe epidemic

* Sydenham's remarkable proofs of the epidemic origin of small pox and its varieties, while it may be afterwards propagated by innoculation and contagion, deserve particular notice.

fever broke out in Europe; and what is remarkable, an epizootie is recorded, which carried off tame birds confined in cages in numbers, in various parts of Europe. It is a curious fact that the same thing happened last winter, for having lost a fine Virginian Grosbeck, in a cage, myself, on last Christmas day, and hearing that numbers of birds had died at the same time, I took the trouble to revert to foreign accounts of the progress of Cholera and epizootie, and I found great and sudden mortality among birds in cages frequently recorded; and I also heard the same in different towns on the continent this year. This circumstance may seem trifling; but be it remembered, that no fact in natural history is to be discarded, and that the forensic maxim, *de minimis non curat lex*, does not apply to physiology.

In 1767 an epidemic suddenly seized animals, which preceded a noted discussion on the contagious nature of glanders. At the same time there prevailed an epidemic catarrh in Europe, and two disorders among horses are recorded; cotemporary with which, I find in a journal in my possession, under All Saints' Day, the following note:—*Two disorders have been very universal among horses, one a violent swelling of the legs and eyes; the other a cough, with which horses were taken this day, and what is very remarkable scarce any either a day before or after.*

The remarkable fog which overspread Sicily, before the earthquake of Messina, is well known; and it was also followed, as is known, by the introduction into Sicily of the epidemic which we had had in 1782 in England, which was called influenza, from its being admitted by a result of some general atmospheric influence. One of the most striking proofs of the doctrine laid down in these pages is afforded by the history of catarrhal complaints, and particularly by the influenza, which, with some varieties, has visited the world like a pestilence at distant periods of time, and has

often been the forerunner of still more severe forms of disease. The years when this epidemic prevailed most are—1510, 1557, 1580, 1587, 1591, 1657, 1709, 1733, 1743, 1762, 1775, 1782. It appeared again in 1801 and 1802, and was not gone by 1823, though it kept shifting its quarters and travelling about Europe, making its attacks where it was least expected. The reader may compare these dates with those in the catalogue of epidemics, Chapter V. of my larger work on epidemics. That this epidemic produces some very remarkable and specific changes in the animal system there can be no doubt. In February of that year it appeared in France, and was called *La Grippe*, it soon got to England, and by March it had arrived in Edinburgh. It proved chiefly fatal to weakly subjects, and to old people suffering under chronic complaints: but its spread was not near so rapid, nor its destructiveness so great, as the influenza of 1782. What struck me most in the descriptions of the disorder, was the fact that the blood drawn from the patients did not separate readily into serum and crassamentum, and though it coagulated speedily, never showed the buffy coat. It seems the symptoms were very much those of other influenzas which have appeared, and the average duration of the disorder was not more than three weeks.

I could swell this catalogue of epidemics to a much greater length,* but enough has been already detailed to prepare the reader for a statement of my opinion as to the real origin of

* Respecting those mysterious visitations which from time to time afflict mankind, it may be stated that we have a remarkable instance in the "*dandy*" or "dangy" disease of the West India islands, which, of late years, has attracted the notice of the profession as being quite a new malady, though nobody, as far as I am aware of, has ever stated it to have been an imported one. We find also that within the last three years a disease, quite novel in its character, has been very prevalent in the neighbourhood of Paris. It has proved fatal in many instances, and the physicians, unable to assign it a place under the head of previously described disease, have been obliged to invent the term 'Acrodinia' for it. I am not aware that even M. Pariset, the medical chief of quarantine in France, ever supposed this disease to have been *imported*, and to this hour the cause of its appearance remains in as much obscurity among the Savans of Paris, as that of the Epidemic Cholera.—*Alpha in Lancet, p.* 109.

epidemics; and for the application of the doctrine which I hold on the subject, in common with the most able and experienced physicians on the Continent, and many in England, to the particular disease called Cholera Morbus, which is the subject of this essay.

The contrary doctrine, namely, that of *contagion*, is comparatively modern, and Dr. Maclean, in an elaborate work on pestilential diseases, has ascribed it to Pope Paul III. It appears that his Holiness, alarmed at an epidemic which then prevailed, wished to remove the Council of Trent to Bologna, in order, if possible, not to expose the Fathers of the Council to what he imagined, listening to the counsels of timid and unphilosophical persons, to be a contagious distemper. This casual opinion coming from the head of the Christian church, as the learned physician observes, spread, and was believed to be as infallible as if it had been a spiritual question settled by papal authority; hence arose a doctrine in medicine, which was destructive of the lives of millions in all Christian countries. For so much was the supposed contagion dreaded, that even physicians and nurses were afraid to go and visit the sick; and it has since happened that no one could be found to attend on the poor sufferers, but certain humane monks, the hospitaliers of convents, and the priests, who must in all probability, sooner or later, perform the last offices for the dying, and of whose exemplary courage and perseverance in such cases, the history of the catholic church affords many bright examples for imitation. *Now the priests so attending neither died of nor even caught the disease*, but lived to put the physicians to the blush, both for their cowardice, and their ignorance about the nature of pestilence.* It is almost

* Perhaps the reader may wonder how it came about that priests attended the sick instead of physicians; but it should be remembered that at the period alluded to all Europe was Catholic; and the priests of the Catholic Church have, in every age, been peculiarly the poor man's friends in cases of disease; and in addition to the consolations which it belongs to their office to administer,

a wonder, that after the period when the inductive philosophy was introduced by Bacon, the true clue to these diseases should not have been found out again till so very lately. In 1817 I published a small treatise on atmospherical diseases; in 1819 I was examined on the subject of pestilential disease by a Committee of the House of Commons, who were at that time investigating the subject of contagion and the quarantine laws. This circumstance led me to the knowledge of the opinions and writings of Dr. Maclean, whose extensive book was perhaps the first of any consequence that had appeared since the period alluded to, on the true nature of pestilence.

I shall now detail some facts in the history of the present Cholera Morbus, which strongly prove the truth of the doctrine that it is not contagious but atmospherical. I take the following from the Lancet, where it has already appeared: it is a faithful version of the Russian account, drawn up by a competent authority at Riga:—

"The fact of non contagion seems determined, as far as a question can be so which must rest solely upon negative evidence. The strongest possible proof is, the circumstance, that not one of the persons employed in removing the dead bodies (which is done without any precaution) has been taken ill. *The statement of fifteen labourers being attacked, while opening a pack of hemp, is a notorious falsehood.* Some physicians incline to the opinion, that the disease may sometimes be caught by infection, where the habit of body of the individual is predisposed to receive it; the majority of the faculty, however, maintain a contrary doctrine, and the result of the hospital practice is in their favour. There are 78 persons employed in the principal hospital here; of these only two have been attacked, one of whom was an '*Inspecteur de Salle,*' and not in immediate attendance upon the sick.

they have been the physicians of the poor. Indeed in all those great institutions of charity and monastic foundations which sprung from Catholicity, but which the Protestants subsequently plundered and abused, one great feature was a provision for the care of the sick and infirm, a circumstance that has given a tone and character to all their councils, and to countries that have once been Catholic, which ages of mercenary selfishness will not be able to efface.

I am assured that the other hospitals offer the same results, but as I cannot obtain equally authentic information respecting them, I confine myself to this statement, on which you may rely. On the other hand, in private families, several instances have occurred where the illness of one individual has been followed by that of others: but, generally, only where the first case has proved fatal, *and the survivors have given way to grief and alarm.* Mercenary attendants have seldom been attacked, and, as mental agitation is proved to be one of the principal agents in propagating or generating the disease, these isolated cases are attributed to that cause rather than infection.

"It is impossible to trace the origin of the disease to the barks; indeed it had not manifested itself at the place whence they come till after it had broken out here. The nearest point infected was Schowlen at a distance of 200 wersts, and it appeared simultaneously in three different places at Riga, without touching the interjacent country. The first cases were two stonemasons, working in the Petersburg suburbs, a person in the citadel, and a lady resident in the town. None of these persons had had the slightest communication with the crews of barks, or other strangers, and the quarter inhabited by people of that description was later attacked, though it has ultimately suffered most.

"None of the medical men entertain the slightest doubt of the action of atmospheric influence—so many undeniable instances of the spontaneous generation of the disease having occurred. Half the town has been visited by diarrhœa, and the slightest deviation from the regimen now prescribed (consisting principally in abstinence from acids, fruit, beer, &c.) invariably produces an attack of that nature, and, generally, Cholera: fright and intoxication produce the same effect.

"Numerous instances could be produced of persons in perfect health, some of whom had not left their rooms since the breaking out of the disease, having been attacked by Cholera, almost instantaneously after having imprudently indulged in sour milk, cucumbers, &c. It is a curious circumstance, bearing on this question, that several individuals coming from Riga have died at Wenden, and other parts of Livonia, without a single inhabitant catching the disease; on the other hand, it spreads in Courland and on the Prussian frontier, notwithstanding every effort to check its progress."*

* *Lancet*, p. 112.

Cholera in this country in a few cases has proved fatal. Some attempt was made at Sunderland, to prove that the disease had been imported from foreign parts, but due inquiry having been made by the collector of customs, this proved to be unfounded.

Abroad we find that Cholera still prevails at Hamburgh; official information to this effect arrived from our Consul at that place, on the 11th October. The absurdity of cordons and quarantines is becoming daily more evident. By accounts from Vienna, dated the 26th September, the Imperial Aulic Council had directed certain lines of cordon to be broken up, seeing, as is stated, that they were inefficacious; and by accounts of the same date, the Emperor had promised his people not to establish cordons between certain states.

I find in a pamphlet on Cholera, lately published by Mr. Searle, who served in India, and who was in Warsaw during the epidemic which prevailed there this year, the following:—

"I have only to add, that after all I have heard, either in India or in Poland, after all I have read, seen, or thought upon the subject, I arrive at this conclusion, that the disease is not contagious."

The able article in the *Lancet* thus concludes:—

"In confirmation of the opinion of Mr. Searle, we have now the evidence of the medical commission sent by the French government to Poland. Dr. Londe, president of that commission, arrived in Paris some days ago. He announced to the minister in whose department the quarantine lies, as well as to M. Hèly D'Oissel, President of the Superior Council of Health, that it was proved in Poland, entirely to his satisfaction, as well as to the satisfaction of his five colleagues, that the Cholera *is not a contagious disease.*

"The Minister at War also sent *four* medical men to Warsaw. Three of them have already declared against contagion; so it may

be presumed that the day is not far distant when those true plagues of society, cordons and quarantines against Cholera, shall be abolished. Hear the opinion of a medical man in France,—after describing, a few days ago, the quarantine and cordon regulations in force in that country:—'But what effect is to be produced by these extraordinary measures, this immense display of means, and all these obstructions to the intercourse of communities, against a disease not contagious; a disease propagating itself epidemically, and which nothing has hitherto been able to arrest.'"

Cases of Cholera appeared this year at Port Glasgow; the interesting details of those cases have been just published:—*they should be read by everybody who takes the smallest interest in the important questions connected with Cholera.*

As the opinions which I have published in my "Essay on the Atmospherical Origin of Epidemic Disorders," in 1829, have been fully borne out, and proved in a remarkable degree, by the phenomena of this present period; I have thought that a simple statement of facts, including a comparison between the progress of the Cholera Morbus and the changes which are going on in our globe and its atmosphere, might not be unacceptable to the reader. They will tend also to remove many erroneous views of the nature, origin, and mode of propagation of Cholera and other prevailing epidemics, and may, by exciting inquiry, on the part of persons more able and better qualified than myself, lead to a knowledge of the character and causes of this important class of disease, more in unison with the state of science in the present enlightened and improving age.

1. The doctrine that I have always maintained is,—That epidemics of whatever character, including the plague itself, were the offspring of an unhealthy state of the prevailing air, and resulted from a derangement, more or less general, of the atmosphere which surrounds the earth.

2. That this state of the atmosphere manifested itself in unusual and rapid changes of heat and cold, in unwonted meteors, whirlwinds, waterspouts, storms, dark vapours filling the air, fogs of unusual extent and density, and, in short, all those phenomena which we call atmospheric, but particularly a distribution of the temperature over the surface of the earth, in a manner often the reverse of the usual order of things.

3. That during these peculiar states of the atmosphere, certain tribes of reptiles and insects frequently overspread and desolate large tracts of country, particularly in the southern and eastern parts of the Continent, and also in America.

4. That terrestrial commotions, accompanied these vicissitudes, particularly volcanoes, earthquakes, the overflowing of rivers and torrents from mountains, and other signs that the changes in our globe, which geology proves to be always going on, are taking place with an unusual degree of activity and force.

5. That the epidemics which take place, apparently in consequence of, or which at least accompany, such changes, assume a diversity of character and symptoms at different times, wholly inexplicable, but which proves, notwithstanding the variety of predisposing causes, that the specific stimulant itself is very various on different occasions.

6. That all the disorders thus excited, pursue a course wholly incapable of being arrested by any sanitary regulations; but that, at the same time, large cities are more frequently attacked than small country places; where the infectious power of the air being augmented by the exhalations from the bodies of the patients, those who come into closer proximity or contact with them, are the most likely to take the disorder; and this circumstance gives the

idea of *contagion*, and is, in fact, a thing that ought to suggest regulations, as regards ventilation and cleanliness.

7. That more may be done to prevent than to cure such disorders, by attending to the digestive organs, and by adopting means to strengthen and tranquillize the constitution; but that on the actual occurrence of the disease, in any given place, *change of air by a removal*, is the cure most to be depended on.

8. Whether such states of atmosphere and changes in the earth, as I have described, depend ultimately on the influence of comets, as Kepler pretended, is an abstruse and difficult question. If large catalogues of pestilential disorders should really seem to point to some such connexion, the approach of the great comet which will appear on November 29th, 1832, is a curious fact, compared with the present spread of Cholera Morbus; but facts alone can establish such a connexion, for which we have no explanation to offer, founded on astronomical data.* I, for my part, can see no possible means of explaining such influence, and I am bound therefore to refer the fact alluded to entirely to established *coincidence*, and not to *cause*.

Now I desire the reader to compare with the above statement, the phenomena which the present period presents. I consider what I call the epidemic period as having begun as early as September, 1828, when that extraordinary *lumen zodiacale* was seen, September 29th, to stretch across the heavens. I have traced a succession of atmospheric changes since that period: the spring of 1829 became remark-

* We must always be careful in stating facts, to avoid error and the undue use of hypothesis. The disciples of the famous Kepler might as well go so far as to ascribe the civil commotions among men, and the revolutions of nations, to the same exciting influences, and might say with the poet, "In cœlo nunquam tuto spectata cometa!" But philosophers must steer clear of such hasty and fanciful conclusions, and content themselves with observing facts, and by the regularity of their succession, determining the relations of cause and effect.

ably unhealthy; the mortality in some countries was prodigious: and the cold of the summer, in parts of Europe, as extraordinary. I was at Spa in the end of May, 1829, and I remember, while examining the substance thrown out by an earthquake there, I found the cold as great as in winter; and on the morning of the 8th of June there was ice on the puddles of water by the banks of the Meuse, near to the town of Namur. I learned also from couriers, that the cold was severe all along the Rhine, and even in Austria. At Louvain they told me everybody was more or less ill, and I heard the same at Aix la Chapelle: a warmer air began at Cambrai, and it was as warm as usual at Paris; but in Spain I find the cold was great. The winter of 1829-30, which followed, was one of unusual severity all over the world, even in the South of Spain, and in Africa snow lay on the ground, and in most parts of Europe covered it, from November 1829 to the end of February 1830. The *Cholera Morbus* then broke away from India, and began its deadly course towards Europe, but did not arrive in Russia till last spring. The plague, however, broke out at Jassy, and in Moldavia severe illness prevailed. During the present year, the *Cholera Morbus* has been making a certain progress, while milder sorts of epidemics have either been its precursors, have followed in its train, or have appeared in its outskirts! In England and France, for example, we have had the *grippe*, the epidemic cough of July last, and the affection of the bowels of August and September. Other and various epidemics are spoken of in other places in Europe and Asia.

Let me now proceed to compare the atmospheric phenomena with these disorders. In January last, I believe on the night of the 7th, the most remarkable *aurora borealis* ever witnessed in England was seen the whole of the night; the whole of the north east seemed of the colour of blood, while yellow, blue, and green light, was conspicuous in the

streamers to the south and east. A still more remarkable aurora was seen in Europe on the 11th of August, and strange colours, and unusual refractions in the sun's light, have been noticed all over Europe, while the whole of the present summer has been characterised by sudden changes from heat to cold, and, *vice versa*, in various countries.

A NEW VOLCANO *has broken out in the Sea near Sicily!*

On the 11th of August a tremendous tornado devastated the isle of Barbadoes, and other parts of the West Indies, and on the 11th of September an earthquake was felt at Venice and at Parma! These are, however, only a few of the remarkable phenomena that I could relate. Rivers have burst their bounds in various parts, and inundations have been severe on the Continent; while daily accounts are arriving of similar facts in the Levant. I will not swell the catalogue. They pretend in some places, that the upper regions of the air are full of insects of an unknown character, but to this I give but little credit, as I ascended in a balloon on the 30th of April last to the height of many thousand feet, but I found none of those pestilential flies which some experimentalists pretend to have come down on the tails of kites.

This notice, however, about the insects had gained considerable ground in France; several persons on the coast about Calais and Boulogne had sent up kites with raw flesh suspended to their tails, which they pretend came down covered with these flies, and the circumstance got mentioned in the papers, coupled with the French accounts of my aerial voyage. This circumstance induced me, while I was abroad, to write some articles, sur le champ, in the Foreign Gazettes, contradicting the facts respecting the flies, but admitting, as I do admit, that all my experiments and observations have led me to believe that the air has been subject this year to very remarkable changes. I have submitted memorials to

some of the sanitary councils on the subject of epidemics, and I am glad to perceive that they have adopted, at length, views of the nature of Cholera, and of the uselessness of cordons, which correspond to the doctrine that I have endeavoured in these pages to illustrate.

The speculations respecting insects being concerned in the production of certain classes of diseases, ought not, however, to be hastily discarded; for while we know for certain that nature has provided millions of animalcula to inhabit morbid matter, as well as nearly every variety of infusions, it may fairly become a question whether they may not be also the causes of those sudden disorganizations which take place in living bodies?

The point which I contend for is, that whatever may be the nature of those morbid conditions of the air which I have proved to excite disorder, whether insects, effluvia, or electricity, they belong to and inhere in large volumes of atmosphere, which are perpetually moving about in different directions, and billetting, as it were, their respective epidemics on various parts of the world in succession, according to the occult laws by which they shift their quarters and traverse the surface of the globe.

My attention has for twenty years been directed to the varieties and laws of atmospheric phenomena; I have pursued these enquiries in various regions from the low marshes and heavy air of the Netherlands to the elevated regions and rarified air of the Swiss mountains; I have examined the clouds and their electricity by means of various instruments, and visited their lofty and moving bulwarks of vapour in aerial as well as alpine voyages; and have never omitted to keep a perpetual register of the phenomena which I witnessed; and I can only say, to save the time and labour of detail, that the whole of my experience confirms the more

elaborate histories and well founded opinion of the best ancient and modern writers,—that epidemics are of atmospherical origin, and that the illusive doctrine about contagion is founded on a partial view of phenomena grossly misunderstood. Indeed so certain do I feel, from experience, of the constancy with which atmospherical commotions accompany the greater forms of these disorders, that I would almost venture to predict that we should still hear of more of the former, before the latter shall have entirely subsided ; but I must now proceed to the more practical part of this essay.

Sect. 2.—On the Symptoms of Cholera Morbus and other Epidemics.

If we look closely into the history of any class of natural phenomena, we shall find that they are subject to that seeming principle of infinite variety which pervades the whole of nature; fossils, plants, animals, and men, are all diversified in their orders, genera, species, and lusus. The morbid changes which living bodies undergo in the progress of disease and dissolution are not exempt from this apparent law of diversification ; and among the latter, the sportive varieties of epidemic complaints afford some of the most curious examples. Many of them have short periods of recurrence, as the plague in Turkey, or the small pox and measles almost everywhere ; while others, like bodies revolving in eccentric orbits, recur after a long lapse of time, and are then only recognised as known complaints, by some fortuitous comparison of their symptoms, with the recorded histories of similar disorders : of this latter kind is Cholera Morbus, which has of late years resumed its sway in Asia, and has at length reached Europe. I can, however, dis-

tinctly trace some of its former visits, centuries ago, in the accounts left by writers of the Sorte Diod or black death, of former times; of which, as well as of some other varieties of epidemia, I shall give some account. But let me beg the reader to keep in mind as he goes along how impossible it is that these varieties, and particularly these periodical returns, should be the effects of contagion; which, like the spread of fire, or the dissemination of weeds, would be at once progressive and uniform.*

In the accounts of A.D. 62, the plague is distinctly recognised; and it was during its continuance, which Webster, after Kepler, ascribes to a comet, when St. Paul was shipwrecked at Malta. The plague recurred in Italy, in the reign of Vespasian, and was accompanied by a prodigious drought and an eruption of Vesuvius. But the large Carbuncular Plague was first observed at Busiris, in 289: it soon after visited Turkey, and has recurred there ever since at no very long periods.

The pestilence of that dreadful period, which began about A.D. 169, was characterised by a loathsome gangrene of the feet, probably similar to the mortification of the thumb which I saw in Oxfordshire.

It is well known that during the dreadful plague of flies in A.D. 117, earthquakes were so frequent that Trajan passed a law to limit the height of the houses, in order to prevent danger.

* When we recollect the fact above stated, it is not hard to discover the reason why similar complaints have apparently been cured by different practitioners by remedies of the most opposite character; a fact so notorious, that it has often cast a slur on the boasted utility and importance of the profession. The fact is, that changes of atmosphere really exercise a much greater influence over health than is usually imagined; and thus during the slow and tiresome course of medicine to which patients frequently submit, it happens in the natural order of things that obscure changes in the qualities of the atmosphere take place, which in reality effect the cure, and that, too, just in time to save our credit as physicians.

The pestilence which carried off Pope Pelagius about A.D. 590, was marked by a tendency to disturb the brain, and to make the patient see phantoms of hideous shapes, as Procopius and Evagrius relate.*

This epidemic was sudden and universal.† A long period of near half a century followed, in which various epidemics of different degrees of malignity infested almost every part of Europe, accompanied at times by extraordinary visitations of locusts, and other insects.‡ It is asserted by Echard that St. Gregory instituted a procession at Rome at this time in consequence of the plague, and that during its solemn progress upwards of 80 of the persons composing it, fell down dead in the streets. According to Paulus Diaconus, and others, this plague in some countries produced death with great rapidity, often on the first attack. In some persons sneezing was immediately followed by death, which gave rise to the custom of saying "God bless you" when one sneezed. In others, gaping was a mortal prognosis; hence the custom still preserved in some places, after gaping, to make the sign of the cross.|| See also that inimitable code of ancient learning, the "*Vitae Sanctorum*," and "Butler's Lives of the Saints," vol. iii. under March 12.

In the year 717, the plague destroyed 300,000 persons at Constantinople only; it returned in 725 with a remarkable vapour from the sea.

The pestilence of 810 fell chiefly on animals, and the loss of cattle in France was immense. In 1230 so destructive a blight occurred in vegetation that 20,000 people died of famine; during which a plague raged in Italy.

* In my larger work "on Epidemic Disorders," all the authorities for these, and numerous similar facts, will be found quoted.

† Procopius, and Evagrius.

‡ August. hist. 1157.

|| Paul. Diac. lib. 4. Mag. Cent. 6, 13, &c.

In 1348 the Cholera Morbus occurred and produced frightful ravages in Denmark, as I have alluded to in another place ; it was called the Sorte Diod, and the clergy and all persons of sedentary habits suffered most : it was marked by that blackness from stagnation which distinguishes the present Cholera. The symptoms of the epidemic of 1389 were like dysentery, but without the blackness.

In 1373, insanity visited the people as an epidemic ; *no one could call this contagious ! and yet it spread as disorders do which are vulgarly called infectious.* This epidemic determined the blood in such violence to the brain as to occasion the delirium often ending in madness ; and it may be remarked that this disease prevailed while the volcanic eruptions of the next year were gathering.

In 1483, first appeared the celebrated epidemic, called the Sweating Sickness, which carried off great numbers from time to time. This disorder attacked those who fed well and were in high health. About the same time the plague changed its character according to authors, and it is said to have resumed its former character a century afterwards. Scotchmen escaped the sweating sickness from their more prudent way of feeding : it recurred, says Webster, in 1506, 1528, and 1551.

Another epidemic soon broke out in England called the Falling Sickness, a kind of epilepsy.

In 1510, the influenza prevailed in Paris, and it caused people to wear a particular costume against cold, called the *Cocoluche* or Catarrhal Cowl.

In 1545, the symptoms of the epidemic were very peculiar, and caused it to be called the Troup Gallant. Charles, Duke of Orleans, died of it in a religious house at Abbeville.

In 1548, a pestilence whose symptoms were indescribably loathsome, suddenly prevailed all over Saxony. Between 1557 and 1570 sore throat, cough, quinsy, and spotted fever, all appeared in succession as epidemics, and all fatally so!

In 1710, the strange symptoms of the "Dunkerque Rant" occurred and were often fatal.

Early in 1740 set in the celebrated long frost which lasted till March; and what is remarkable, in the other hemisphere a similar winter prevailed the following year. The whole period was very unhealthy. The hooping cough, spotted fever, and small pox, raged in succession till the end of 1741. Ireland lost 80,000 persons by famine and by dysentery.

Don Ulloa says, that the Black Vomit, as it was called, was first observed in Guayaquil, this year.

In the summer of 1780 occurred the extraordinary epidemic called the *Breakbone Fever* in America, and during its prevalence Europe suffered from great vicissitudes of weather. The hybernal season this year was cold. On St. Hilary's Day, Jan. 14, the thermometer, according to Fahrenheit's scale, fell to 0—9 or 9° below 0, at Hartford, in America: it had been as low as 0—26° on the 11th. But I mention the 14th as a particular day, because it is the average coldest day of the year.* The thermometer fell at Glasgow, to 0—46°, a cold almost incredible for Scotland. At Walthamstow it was 17°, which is no great cold. The spring was cold, and the plague raged at Smyrna. During the Festival of Guardian Angels, Oct. 2, a violent hurricane desolated the Leeward Islands, and on the 11th, the Windward Islands were laid waste.

* It was on this day, in 1820, that the thermometer fell in the night to 0—10°, at Hartwell, near East Grinstead.

In 1795, and during the scarcity of bread in Europe, a species of *headache with vertigo* became epidemic in America, and it also observed regular diurnal periods, beginning about eleven in the forenoon and going off by degrees after two o'clock, which was the time of its crisis. Neither bleeding, opiates, nor aperients, had effect on it. The next year *Cholera* occurred in America, but it attacked only children! If the reader can see contagion in the above accounts, he must be differently constituted from me. But I must now solicit particular attention to the following account of the disorder of the present year.

After carefully examining the accounts of different persons who have described the Cholera Morbus of the present period, I find no one which appears so accurate in detail as that drawn up by MM. Barry and Russell, physicians, which I shall therefore subjoin. The editor of the Lancet, from whose pages I take the following account, observes, that it is a most useful document, though extracted from a very insignificant pamphlet, published by the Board of Health. After reading the extract, I shall compare the symptoms and course of the present Cholera with those of other epidemics which are recorded in history. The memorial from which the following extracts are taken, appears to have been drawn up at St. Petersburg, from actual observation.

"St. Petersburg, 27, *or O.S.* 15 *July*, 1831.—Although there can be no doubt that the disease now prevailing here is strictly identical, in all essential points, with the epidemic Cholera of India; and although there are many descriptions extant of that malady, much more ably and accurately drawn up than any which we can pretend to give; yet we are induced to believe that a short account of the symptoms which we ourselves have actually witnessed and noted at the bedside in some hundreds of cases, since our arrival here, may be useful,—first, because we are not aware that any description by an eye witness of European Cholera has yet been addressed to the British

government; secondly, because the disease, as it has shown itself in this capital, when closely compared with the Indian Cholera, appears to have undergone some modifications; thirdly, because, having now studied the disease in all its stages, our description, however imperfect, will at least assist towards establishing a standard of comparison with other local epidemics of Cholera in Europe, and may, perhaps, enable those who have not seen this disease, to recognise it with more certainty than they would otherwise be able to do.

"The Cholera Morbus of the north of Europe, to which the Russian peasants have given the name of "*chornaia colezn*" or *black illness*, like most other diseases, is accompanied by a set of symptoms which may be termed preliminary; by another set which strongly mark the disease in its first, cold, or collapsed stage; and by a third set, which characterise the second stage, that of reaction, heat, and fever.

"Preliminary Symptoms.—We have but few opportunities of witnessing the presence of all these symptoms, some of which precede the complete seizure by so short an interval, that the utmost diligence is scarcely sufficient to bring the patient and the physician together, after their occurrence, before the disease is fully formed. Diarrhœa, at first feculent, with slight cramps in the legs, nausea, pain, or heat about the pit of the stomach, malaise, give the longest warning. Indeed, purging, or ordinary diarrhœa, has been frequently known to continue for one, two, or more days, unaccompanied by any other remarkable symptom, until the patient is suddenly struck blue, and nearly lifeless. Often the symptoms just mentioned are arrested by timely judicious treatment, and the disease completely averted. When violent vertigo, sick stomach, nervous agitation, intermittent, slow, or small pulse, cramps, beginning at the tips of the fingers and toes, and rapidly approaching the trunk, give the first warning: then there is scarcely an interval. Vomiting or purging, or both these evacuations, of a liquid like rice water or whey, or barley water, come on; the features become sharp and contracted, the eye sinks, the look is expressive of terror, wildness, and, as it were, a consciousness on the part of the sufferer that the hand of death is upon him. The lips, the face, the neck, the hands, the feet, and soon the thighs, arms, and

whole surface, assume a leaden, blue, purple, black, or deep-brown tint, according to the complexion of the individual, varying in shade with the intensity of the attack. The fingers and toes are reduced at least a third in thickness; the skin and soft parts covering them are wrinkled, shrivelled, and folded; the nails put on a bluish pearl white; the larger superficial veins are marked by flat lines of a deeper black; the pulse is either small as a thread, and scarcely vibrating, or else totally extinct. The skin is cold, and often damp; the tongue *always moist*, often white and loaded, but flabby and chilled, like a bit of dead flesh. The voice is nearly gone; the respiration quick, irregular, and imperfectly performed. Inspiration appears to be effected by an immense effort of the chest, whilst the alæ nasi in the most hopeless cases, and towards their close, instead of expanding, collapse, and stop the ingress of air. Expiration is quick and convulsive. The patient asks only for water, speaks in a plaintive whisper, the 'vox Cholerica,' and only by a word at a time, from not being able to retain air enough in his lungs for a sentence. He tosses incessantly from side to side, and complains of intolerable weight and anguish around his heart. He struggles for breath, and often lays his hand on his stomach and chest to point out the seat of his agony. The integuments of the stomach are sometimes raised into high irregular folds, whilst the belly itself is violently drawn in, the diaphragm upwards and inwards towards the chest; sometimes there are tetanic spasms of the legs, thighs, and loins; but we have not seen general tetanus, nor even trismus. There is occasionally a low suffering whine. The secretion of urine is always totally suspended, nor have we observed tears shed under these circumstances; vomiting and purging, which are far from being the most important or dangerous symptoms, and which, in a very great number of cases of the present epidemic, have not been profuse, generally cease, or are arrested by medicine easily in the attack. Frictions remove the blue colour for a time from the part rubbed; but in other parts, particularly the face, the livor becomes every moment more intense and more general. The lips and cheeks sometimes puff out and flap, in expiration, with a white froth between them, as in apoplexy. If blood be obtained in this state, it is black, flows by drops, is thick, and feels to the finger colder than natural. Towards the close of this scene, the respiration becomes very slow, there is a quivering among the tendons of the

wrist; the mind remains entire. The patient is first unable to swallow, then becomes insensible; there never is, however, any rattle in the throat, and he dies quietly after a long convulsive sob or two.

"The above is a faint description of the very worst kind of case, dying, in the cold stage, in from six to twenty four hours after the setting in of the bad symptoms. We have seen many such cases just carried to the hospital from their homes or their barracks. In by far the greater number, vomiting had ceased, in some, however, it was still going on, and invariably of the true serous kind. Many confessed that they had concealed diarrhœa for a day or two; others had been suddenly seized, generally very early in the morning.

"From the aggravated state which we have just described, but very few indeed recover, particularly if that state has been present even *for four hours* before treatment has commenced. A thread of pulse, however small, is almost always felt at the wrist, where recovery from the blue or cold stage is to be expected. Singular enough to say, hiccough coming on in the intermediate moments, between the threatening of death and the beginning of reaction, is a favourable sign, and generally announces the return of circulation.

"In less severe cases, the pulse is not wholly extinguished, though much reduced in volume; the respiration is less embarrassed; the oppression and anguish at the chest are not so overwhelming, although vomiting and purging and the cramps may have been more intense. The coldness and change of colour of the surface, the peculiar alteration of the voice, a greater or less degree of coldness of the tongue, the character of the liquids evacuated, have been invariably well marked in all the degrees of violence of attack which we have hitherto witnessed in this epidemic. In no case or stage of this disease have we observed shivering; nor have we heard, after enquiry, of more than one case, in which this febrile symptom took place.

"Fever, or Hot Stage.—After the blue cold period has lasted from twelve to twenty-four, seldom to forty-eight hours or upwards, the pulse and external heat begin gradually to return; headache is complained of, with noise in the ears; the tongue becomes more

loaded, redder at the tip and edges, and also drier. High-coloured urine is passed with pain and in small quantities, the pupil is often dilated, soreness is felt on pressure over the liver, stomach, and belly; bleeding by the lancet or leeches is required; ice to the head gives great relief; in short, the patient is now labouring under a continued fever, not to be distinguished from ordinary fever. A profuse critical perspiration may come on from the second or third day, and leave the sufferer convalescent; but, much more frequently, the quickness of pulse and heat of skin continue; the tongue becomes brown and parched, the eyes are suffused and drowsy, there is a dull flush, with stupor and heaviness about the countenance, much resembling typhus; dark sordes collect about the lips and teeth; sometimes the patient is pale, squalid, and low, with the pulse and heat below natural, but with the typhous stupor; delirium supervenes, and death takes place from the fourth to the eighth day, or even later, in the very individual too whom the most assiduous attention had barely saved in the first or cold stage. To give a notion of the importance and danger of Cholera fever, a most intelligent physician, Dr. Reimer, of the merchant hospital, informs us, that of the twenty cases treated under his own eye, who fell victims to the disease, seven died in the cold stage, and thirteen in the consecutive fever.

"The singular malady is only cognizable *with certainty* during its blue or cold period. After reaction has been established, it cannot be distinguished from an ordinary continued fever, except by the shortness and fatality of its course. The greenish or dark, and highly bilious discharges produced in the hot stage, by calomel, are not sufficiently diagnostic, and it is curious that the persons employed about these typhoid cases when they are attacked, are never seized with ordinary fever, but with genuine cold blue Cholera. Nothing, therefore, is more certain, than that persons may come to the coast of England, apparently labouring under common feverish indisposition, who really and truly are suffering under Cholera in the second stage.

"The points of difference between the present epidemic and the Cholera of India, when the two diseases are closely compared, appear to us to be the following:—

"First, The evacuations, both upwards and downwards, seem to have been much more profuse and ungovernable in the Indian than in the present Cholera, though the characters of the evacuations are precisely the same.

"Secondly, Restoration to health from the cold stage, without passing through consecutive fever of any kind, was by far more frequent in India than here, nor did the consecutive fever there assume a typhoid type.

"Thirdly, The proportion of the deaths in the cold stage, compared with those in the hot, was far greater in India, according to Dr. Russell's experience, than here.

"Fourthly, The number of medical men and hospital attendants attacked with Cholera during the present epidemic, in proportion to the whole employed and to the other classes of society, has been beyond all comparison greater here than in India under similar circumstances; twenty five medical men have been already seized, and nine have died out of two hundred and sixty four. Four others have died at Cronstadt, out of a very small number residing in that fortress at the time the disease broke out there. Six attendants have been taken ill at a small temporary hospital behind the Aboucoff since we wrote last. It is certain, however, that in some Cholera hospitals, favourably circumstanced as to size, ventilation, and space, very few of the attendants have suffered.

"Of these facts we are likely to receive accurate statements in answer to the written questions which we have submitted to the medical authorities through the government here.

"Convalescence from Cholera has been rapid and perfect here, as is proved by the following fact:—The Minister of the Interior had given orders that all convalescents, civil as well as military, at the General Hospital, should be detained fourteen days. We inspected about two hundred of these détenus some days back, with Sir James Wylie, and found them in excellent health, without a single morbid sequela amongst them.

"Relapses are rare in this epidemic, nor have they been often attended with fatal results: hospital servants seem to have been most liable to them. One physician had three attacks, the second severe, in which he states that he derived great benefit from the magisterium bismuthi."

It seems by report also that on an average, out of 272 cases, 108 died and 164 were cured.

After reading the above authentic account, it is lamentable to turn to the unintelligible farrago published by our Boards of Health, and to perceive how much France is before England in everything that is rational and scientific in medicine. I will not quote from the productions which I allude to, for it would be a useless waste of time, while delicacy prevents me from commenting too severely on the productions of men who, no doubt, have done *their* best. On a subject, however, of such importance, it is our duty to expose the fallacy of recommendations that could only have resulted from the most narrow, and, to say the least, mistaken views of the nature of disease. In the next section I shall show that the vexatious restrictions of quarantine, and still more the internal regulations for removing the sick from the care and consolations of their healthy relatives, even if the councils had any power to enforce them, which luckily in a free country they have not, are not only useless, cruel, and ridiculous in the extreme, but are calculated to do the most serious mischief, by exciting fear, that great predisponent to disorder, by which thousands of human lives may be sacrificed; and by presenting obstacles to external commerce, and to that free interchange of the product of local manufacture, by which alone human industry is rendered an available medium of national wealth.

If the Boards of Health are desirous of advancing the interest of the Boards of Excise, which is the only plea for

the observations on the danger from smuggling, which we have lately seen in print; they had better find some mode of explaining the means by which contraband boats can introduce diseases of the gall bladder into England, than by propagating the exploded doctrine that the cork of a Dantzic brandy bottle, or piece of Turkey carpeting, can bring the Cholera or the Plague to this country; or that an incautious dispatch from Warsaw, or from Petersburg, can carry a mortal pestilence from the Polar regions to the Equator! There is, unfortunately, such a mixture of ignorance and imbecility in all that belongs to the healing art in England, that one is prepared for a certain quantum of what is honestly called humbug, in all medical effusions, but there is at the same time an extent to which folly cannot be carried without producing its reaction.

That this may be the case in the present instance is my sincere wish; for, as Dr. James Johnson very ably hints at, in his excellent letter on Cholera, the promulgation of a doctrine that spreads morbific alarms, and at the same time tends to sever the finest bonds of mutual charity by which men are held bound to succour each other in sickness, must, to any humane and reflecting person, appear a serious public evil: I, for my part, feel it to be so, and am convinced that those who do not, as well as those who do agree with me on the subject of contagion, will allow at least that no effort, however humble and limited, can be useless, which leads to the solution of this important question.

Sect. 3.—Of the Treatment of Cholera Morbus and other Epidemics.

We shall find by examination that among the many occasions of disorder to which the mortal fabric of man and animals is subject, two principal classes of causes claim our particular notice—the *excitant* and the *predisponent*, so that

by diminishing the influence of either of these we shall materially break down the force of the complaint. Hitherto this essay has related to the specific excitant of these lamentable diseases, which I have proved to be atmospheric, and beyond the reach of our control; but the predisposing circumstances in the constitution and habits of life, which as it were lay out for and forecast the disease, are nearly all of them within the range of medical power, and may, by ordinary prudence, be so lessened, that the disorders which we aim at controlling, may be reduced almost to an epitome of their original virulence.

In order to give the clearest notions of such curative means as Nature has left within our reach, I shall divide the treatment of it into three distinct considerations :—

1. The treatment of the human body, whereby we can remove many of the predisponent causes, and by strengthening and tranquillizing the constitution, render it unfit for the reception of the malady.

2. The removal of all those circumstances about our habitations which would be favourable to the disorder; such as fetid odours, and filth of all kinds.

3. The introduction of such fumigations as time and experience have shown to be capable of counteracting the effects of the expected malaria.

This third precaution may be regarded as the counterpart to the second, and when all three are acted on collectively, we have done all that human ingenuity has hitherto been able to effect, in order to place society in a state of defence against the coming evil.

1st. Of the Mode of Preparing the Body.—His-

tory proves that not only in less virulent epidemics, but even in the more violent attacks of Cholera and even the plague itself, when the epidemic constitution of the air has been at its height, certain persons totally escape its attacks; and these are the temperate and regular, who have that sort of secure and tranquil health in store, which is called stamina, from its being capable of bearing up against the incursions of disease. This sort of real soundness of constitution, the invariable result of due temperance, exercise, and regularity, is essentially different, both from the high, florid, and artificial health which comes of repletion, on the one hand; and the weakness and debility of an impoverished habit of body, resulting from debauchery, neglect, and bad food, on the other.

The persons whose health enables them to resist, in the most perfect degree, the effects of disease, are those *who have been temperate for a length of time*. In times of certain sorts of pestilence, a little additional stimulus may be necessary, but it cannot be too often repeated, that it is the *previous* habits of the individuals which lay the foundation of their power to repeal diseases.

The first object will therefore be to point out the Rules of Health to be observed, which I endeavour to compress into a small compass, as follows, dividing the subject into Rules and Observations:—

Rule 1.—Quantity of Food.—Observe that you never eat more food than is necessary to satisfy the demands of Nature; since whatever is eaten superfluously acts injuriously on the stomach and bowels. It is not what we *eat*, but what we *digest*, that nourishes us, and the least surplus proves a source of disease.

Observations.—By digestion is meant that process by

which the food is separated into the nutritive fluids that replenish the daily waste of the body, and into the fœcal matter or residue. Any thing which interrupts this process is hurtful, by causing dangerous chemical changes to take place in the aliment which lays unconcocted in the stomach and bowels; hence headaches, weakness, and *predisposition to disease*, in consequence of the sympathy that exists between the digestive organs and other parts of the body.

RULE 2.—QUALITY OF FOOD.—Eat nothing known to disagree with you. Beef, mutton, game, and poultry, and a due proportion of well boiled vegetables, are the best; a small portion of ripe fruit is also good, as it promotes the natural action of the bowels: but pork, and young meats, fat, pastry, and other things liable to fail in digestion, are to be avoided. Wine and beer in very small quantities, and only after meals: spirits to be avoided.

Observations.—The exceptions to this rule are persons who cannot eat animal food at all; and those who cannot digest vegetables. Idyosyncracies should be consulted; and any thing known to disagree carefully avoided. With regard to avoiding strong spirits it may be observed, that by not exhausting the system with *habitual* stimulus, we shall allow its *susceptibility* to increase, and then a little cordial, or good brandy, will have double effect, when the time comes, to give the constitution every possible strength.

RULE 3.—PERIODS OF MEALS.—Breakfast, dinner, and a very light tea or supper, are enough for anybody; those who dine late ought not to eat supper at all, and those who dine early would do better without it. But it is a golden rule—never to eat between meals—nor to have your meals come nearer to each other than the interval of *six hours* at least: after meals always rest quiet for a short time to allow the food time to digest.

Observations.—By walking or working after dinner the food is shaken about in the stomach, when those energies, which are intended to be employed in digestion, are spent in the muscles, to the injury of the stomach. As I recommend smoking, perhaps a pipe or two after dinner might ensure, to the patient, the necessary stillness. In weak, very young, or very old people, sleep is advisable afterwards, a *siesta* being, of all other things, the most restorative of the strength.

Scholars, particularly children, should be allowed two hours of play out of doors *before* dinner, and one of quiet recreation *after* it: labour would become easier the rest of the day. Children often suffer dreadfully at schools, for want of enough air and exercise.

RULE 4.—EXERCISE.—Rise early, and take the morning air on an empty stomach, whenever the weather will permit, nor ever pass a day without exercise, if possible.

Observations.—The old proverb which recommends getting up with the lark is founded on good sense, and has received the sanction of a long experience in its favour. Whether it be that certain active persons, constructed at all events to be long livers, have got up early from the native activity of their constitutions; or whether early rising actually possesses the healthy influence that is ascribed to it, facts are wanting to determine; but certain it is, that of an enormous catalogue of persons who have attained to a great age, of very dissimilar habits in other respects, a very large proportion have been early risers. There are few persons who cannot take early exercise before breakfast.

RULE 5.—VENTILATION—Never stay or sleep in close rooms, but always have fresh air, either by means of ventilators, or some contrivance of parallel utility.

Observations.—If few persons know the advantage of exercise, still fewer understand the benefit of fresh air. Ventilation of rooms, too, is apt to be neglected, particularly in winter. The flywheels, called ventilators, are good things for close apartments. The diseases of manufactories and gaols are in a great measure produced by foul and stagnating air. Many suffer from lying in *close bed rooms*, and I have often recommended a small portion of the upper part of the window to be kept open, with great advantage, to those who are weak, or are liable to headaches in the morning.

RULE 6.—SLEEP.—Seven hours sleep will be sufficient for grown persons, but children and old persons require an hour or two more.

Observations.—I have before noticed the use of sleeping an hour after dinner, and it is particularly advisable for those who have much mental as well as bodily labour.

RULE 7.—DIGESTIVE FUNCTIONS.—Take care to have motions at least *once every day*, and watch narrowly for any symptoms of disorder in the digestive organs, and correct it by the means of alterative and mild medicines.

Observations.—Although we soon become acquainted with the disordered state of our digestive organs in some cases, by the pain and uneasiness they occasion, as, for instance, in stoppages, in colic, and in inflammation; yet there are other and less obvious disorders of those organs, which frequently escape the notice of the patient, till they have gone on sufficiently long to occasion great mischief in the animal economy. For this reason I shall here endeavour succinctly to point out to the notice of the reader, certain signs of disorder in the stomach, bowels, and liver,

by attending to which in time, we may often prevent the occurrence of diseases of greater magnitude.

When the tongue be white or furrowed on its upper surface, or where there be a bitter or otherwise unnatural taste in the mouth in the morning before breakfast, we may rest assured, however well we may think ourselves, that the stomach, either from indigestion or some other cause, is irritable and out of condition. I know of no more certain sign of a disordered stomach than this. Persons who have the care of a family should observe the surface of the children's tongues, the first thing in the morning, particularly when they are in the least degree indisposed, as some trifling indigestion, always indicated by the state of the tongue, is frequently the beginning of very serious disorders. By remedying this incipient evil in its early stages, by small doses of opening medicine, I believe many children might be saved from tedious and often fatal diseases.

The next symptom of disorder to which it will be proper to allude, is that feeling of uneasiness in the stomach after eating, which really arises from indigested food. This symptom usually, but not always, accompanies the one before described. When the meal has been too copious, or the food of a quality which does not agree with the patient's particular constitution, this sensation is generally experienced, and is often followed by nausea. We ought to take notice whether all food produce it, or whether the sensation only occur after eating particular kinds of aliment, in order that in the latter case the obnoxious article of diet may be avoided.

When the stools are not of a natural colour and consistency, it indicates the defective performance of the subsidiary processes of digestion; the most important perhaps of all these is the function of the liver. If the

excrements be not duly coloured of a deep yellowish brown, we should regard some defect in the bile as the cause of the discolouration, and should have recourse to small doses of mercury, or of calomel and aloes. For it is by the bile that the feces are coloured: colourless or pale feces, therefore, show that the secretion of bile is deficient, while green, black, and other discoloured stools, indicate an unnatural secretion of that fluid. In either case, the state of the liver becomes the object of attention, and, as the most distressing symptoms frequently arise from a disordered liver, so may we often, by the timely application of simple remedies for the disorders of that organ, avert calamities of the most important nature, both mental and bodily. I believe that *in cases of Cholera the liver ought always to be particularly attended to*, as that disease, as its very name implies, affects the secretions of the liver in a remarkable degree; and on a due discharge of the vitiated or redundant bile, the cure seems often to depend.*

When any of the abovementioned signs of defective or vitiated bile appear, *five grains of the blue pill* may be taken every alternate night, and a draught, next day, of *one ounce of infusion of gentian, two drachms of infusion of senna, and one drachm of tincture of cardamom.* This is an excellent stomachic in most cases of indigestion. In case of this draught not agreeing with the patient, any substitute may be employed which custom has reconciled to the constitution; as cascarilla, and so on. In many cases vegetable diet drinks, even the simple infusion of balm, of sage, horehound, and other herb teas, will prove beneficial, by tranquillizing the irritability of the stomach.

RULE 8.—PERIODICAL ABSTINENCE.—Observe one day of abstinence at least in every week, and do not omit

* See Medicina Simplex; or a Guide to a Healthy Life and Happy Old Age, with Family Prescriptions. Price 2s. 6d.

to observe fasts and abstinence, anciently prescribed by the catholic church, if already accustomed so to do.

Observations.—If our fasts had been ordained by a council of physiologists, they could not have been better timed and adapted to the necessities of the case, than they are at present.

The days of abstinence prescribed by the church, in each week, will by all be admitted to be wholesome; occasional abstinence is known to be better than habitual low feeding; it affords to the stomach a useful alterative from our customary heavy food.

As the abstinence practised by some persons in Lent is a useful alterative in spring, so is the little fast of Advent a good substitute for the old silly custom of bloodletting again in autumn. It prepares us likewise for the feasts of Christmas and the New Year, just as Lent does for those of Easter and Whitsuntide; and we enjoy the return to the festive circle round the wassail bowl, ten times more than those do who have no change.

When Sir Isaac Newton was writing his *Principia*, he lived on a scanty allowance of bread and water, otherwise he would not have achieved his undertaking.

Rule 9.—Ease of Mind.—Take care not to let your mind be occupied by laborious employment, nor with irritating thoughts about the time of meals: otherwise indigestion will ensue.

Observations.—Music and light amusement after dinner are on this account desirable. There is no doubt that the custom of sitting in convivial society after meals, arose from the knowledge of the fact that pleasurable sensations after eating promoted digestion.

RULE 10.—APHRODITES.—Avoid all occasions of the exhausting and debilitating passions: which in reality weaken the body, dispose it to disorder, and shorten life.

Observations.—The experience of Europe in the present Cholera Morbus has proved that all persons addicted to debauchery, and particularly sexual indulgence, fall the earliest victims to the disorder.

RULE 11.—BATHING.—Use the BATH wherever it be practicable.

Observations.—The disuse of bathing in northern climes has proved a great evil, and is no doubt one cause why cold climates, which are comparatively healthy, have been so severely visited by pestilential disorders. I should strongly recommend *daily ablution of the whole body.* Those who are used to the warm bath will continue this practice with advantage. *If, our Councils of Health would establish* PUBLIC BATHS, *they would render a very essential service to society.*

These are the general rules of health to be observed; and in furtherance thereof I shall subjoin a list of prescriptions at the end of this work, which will facilitate the application of those means which have been recommended in order to guard the body against the introduction of Cholera or any other epidemic.

2d. REMOVAL OF FILTH.—The principal rules to be laid down here are such as common sense will suggest. Clear out drains and ditches, empty cesspools, draw off stagnant water, promote currents of fresh water, where it can be done; remove dirty rags and every sort of chiffons from your houses and streets, and every thing of a putrid or offensive nature; above all, observe personal cleanliness, as

regards washing, and also apparel. It has been found that those who have most frequently changed their under garments, particularly where they be woollen, have been less severely attacked.

3d. FUMIGATIONS AND WASHES.—On the supposition that insects are the cause of disease, persons have recommended washing the body with solutions of camphorated spirit mixed with the water. I have not much faith in this. Fumigations however are good, such as tobacco, and for this reason *I would encourage the poor to smoke in their cottages of an evening*. Various other fumigations are useful; but particularly the watering the floors of the chambers with solutions of *chlorate of lime* and of *chlorate of soda;* which are so well known to disinfect all odorous places.* This plan has been adopted with success on the Continent, and is found to be a very great addition to household comfort. I am aware that some persons discard this precaution; but of its good effects in many cases I have no doubt.

Remedies.—When the disease comes, I trust that physicians shall be prepared with remedies, but in the meanwhile, I will not refrain to submit to the public some of those gentle precautions which the *Board of Health* have adopted as likely to be useful, reserving all further means which experience or study may have placed in my power, till the arrival of the complaint, which, after all, may never come. It is right, however, to be prepared for it, as the labour of the certain preparation is trifling when compared with the possible importance of the issue. I must, however, observe, that I have been forced to omit other of *their* rules as likely to prove more mischievous than good. They observe:—

* It is necessary to ensure good drugs on these occasions, and as I wish my patient to be well supplied, I recommend the *Chlorides*, made by those excellent and philosophical manufacturers MM. Beaufoy and Co. South Lambeth, which are to be had at all Chemists and Druggists.

"It is evident that the most urgent and peculiar symptom of this disease is the sudden depression of the vital powers: proved by the diminished action of the heart, the coldness of the surface and extremities, and the stagnant state of the whole circulation. It is important to advert to this fact, as pointing out the instant measures which may safely and beneficially be employed where medical aid cannot immediately be procured. All means tending to restore the circulation and maintain the warmth of the body should be had recourse to without delay. The patients should always immediately be put to bed, wrapped up in hot blankets, and warmth should be sustained by other external applications, such as repeated frictions with flannels and camphorated spirits: poultices of mustard and linseed (equal parts) to the stomach, particularly where pain and vomiting exist; similar poultices to the feet and legs, to restore their warmth. The returning heat of the body may be promoted by bags containing hot salt or bran applied to different parts of it. For the same purpose of restoring and sustaining the circulation, white wine whey, with spice, hot brandy and water, or sal volatile, in the dose of a tea spoonful, in hot water, frequently repeated, or from five to twenty drops of some of the essential oils, as peppermint, cloves, or cajeput, in a wine glass of water, may be administered; with the same view, where the stomach will bear it, warm broth with spice may be employed. In very severe cases, or where medical aid is difficult to be obtained, from twenty to forty drops of laudanum may be given, in any of the warm drinks previously recommended."

In addition to the above, I must observe that one of the most important facts in the cure of Cholera, seems to have been left out in the above directions, namely, *the utility of bringing away copious discharges of bile, and feculent matter from the bowels, early in the disease*, for it having been found extensively in the North of Europe, that those patients who, in the natural course of the disorder, discharged much bile, generally got well, the employment of artificial means to effect the same was naturally suggested, and was attended with good effects. On the same principle we shall see the utility of employing occasionally those

gentle cholagogues and alterative medicines as bring away bile, and keep the secretions in a healthy state, such, for instance, as the Pill No. 20, of the list of prescriptions subjoined.

The following plan may be acted on in the absence of immediate medical advice, on the spur of the occasion, as soon as symptoms of real Cholera appear:—Give the Pill No. 20, and then put the patient into a warm bath*—VAPOUR BATH if possible; after which put him to bed in a room warmed by fire, but well ventilated, and then repeat aperient doses till the bowels be emptied and biliary discharge produced. In violent and sudden attacks, where it is necessary immediately to allay nausea and sickness, cajeput oil dropped into water has been advised: in some such cases sometimes a pill of *Opium gr. j. Calomel gr. i.* and Antimon. Tartariz. gr. $\frac{1}{8}$. have been found useful; but the hot baths should never be omitted.

* In Chelmsford there is no excuse for not using the baths, as there are excellent accommodations for bathing in the centre of the town.

DOMESTIC PRESCRIPTIONS.

NO. DRAUGHTS.

1. R. *Infus. Gentian comp.* oz. j. *Infus. Sennæ*, dr. jj. *Tinct. Cardamom. comp.* dr. j. M.

A draught to be taken an hour before dinner, as a stomachic in cases of bad digestion, where there is also slight costiveness. Take with it Pill, No. 14, at night, now and then with advantage. Where there is no constipation of bowels, the senna may be omitted or diminished in quantity.

2. R. *Infus. Rosarum.* oz. j. *Sulphat. Magnes.* dr. j. *Syrupi.* q. s. M.

A cooling and rather opening draught, to be taken once or twice a day in fever, on an empty stomach. This draught is assisted by Pill, No. 14, taken every other night.

3. R. *Decoct. Sarsaparillæ comp.* oz. ij.

A draught to be taken twice a day on an empty stomach, in cases of eruptions of the skin, of boils, of nervous irritability, and many others. Its effect is powerfully increased as an alterative by 5 gr. of *blue pill*, taken at night, No. 19.

4. R. *Mistur. Camphor*, oz. j. *Spirit Æther nitr.* dr. j. *Carbonat. Ammon.* gr. vii. M.

A very useful draught taken once or twice a day in cases of corrupt states of both, of oedematous swellings, incipient dropsy, with Pill No. 22.

5. R. *Vini. Ipecacuanhæ*, dr. j. *Antimon. Tartariz.* gr. j. *Aquæ puræ.* oz. j. M.

A safe and certain emetic.

6. R. *Pulveris Rhei.* gr. xv. *Potassæ Sulphat.* gr. xiii. *Aquæ Cinnamomi.* oz. j. M.

This draught will effectually clear the stomach, and is a good and safe purgative; its effect will be rendered more complete, if Pill No. 20, be taken the preceding night.

7. R. *Sodæ Tartarizat.* dr. ij. *Sodæ Carbonat.* scr. j.

Put the above powder in a glass of lemonade, and take it in a state of effervescence; it forms a most grateful and cooling aperient in cases of feverishness.

8. R. *Infus. Sennæ.* oz. j. *Tinct. Jalap.* dr. j. *Potass. Tartar.* dr. j. *Cum aliquo Syrupo.* M.

The above may be taken as a strong clearing draught, instead of No. 6, where the patient cannot keep rhubarb on the stomach, but it is not near so certain. And I advise that Pill No. 14 be taken with it, if not beforehand, to increase the effect if required.

9. R. *Potassæ Subcarbonat*, gr. x. *Infus. Gentian. comp.* oz. j. *Spirit Æther. comp.* dr. ss. *Træ Cinnamom.* dr. j. M.

A diuretic draught. To increase it, take over night Pill No. 22.

10. R. *Misturæ Camphor.* oz. j. ss. *Liquor Ammon. Acet.* oz. ss. *Liquor Antimon. Tartar. min.* x. *Tinct. Opii. min.* vi. M.

Diaphoretic draught, to be taken at night, in cases of violent cold, and cutaneous obstruction. Open the bowels previously with Pill No. 20.

POWDERS & PILLS.

11. R. *Pulveris. Antimon.* gr. iij. *Calomel.* gr. j.—*Fiat Pulvis.*

A powder very useful for children suffering from colds with disordered digestive organs.

12. R. *Calomel.* gr. j. *Pulv. Scammoniæ.* gr. iv.

A useful powder to give children who suffer from overloaded bowels, or where excrements appear dark or otherwise of an unnatural colour.

13. R. *Sulphat. Quinninæ*, gr. iij.

Twice a day in ague and other intermittents after the bowels have been well evacuated with Pill No. 14 or No. 20.

14. R. *Calomel* gr. j. *Extr. Aloës.* gr. ij. *Rhei.* gr. ij.—Pill.

The most efficacious Pill for ordinary occasions.

15. R. *Extr. Aloës.* gr. iij, *Rhei.* gr. ij.—Pill.

16. R. *Extr. Aloës.* gr. iv. *Saponis*, gr. j.—Pill.

17. R. *Extr. Aloës. Extr. Colocynth, comp. Rhei.* Of each gr. j. —Pill.

Those who are subject to constipation of bowels, may make choice of any of the above three Pills, to be taken periodically and frequently as occasion requires.

18. R. *Pil. Calomel comp.* gr. v.

19. R. *Pil. Hydrarg.* gr. v.

Commonly called Blue Pill. May be taken every alternate night in cases of defective action of liver, and for an alterative; assisted by draughts No. 1, No. 2, or No. 4, according to the case. See those numbers.

20. R. *Calomel—Extr. Aloës—Extr. Colocynth—Rhei.* $\overline{aa}$ gr. j.—*Antimon. Tartariz.* gr. ½. —Fiat Pil. A good Pill for clearing the bowels previous to giving quinnine for ague.

21. R. *Camphora.* gr. ij. *Pulv. Antimon.* gr. iij. *Opii. Purif.* gr. j. *Confect. Arom.* q. s.—Pill.

22. R. *Calomel.* gr. j. *Pulv. Scillæ.* gr. iij.—Pill.

At night to assist draughts Nos. 4 and 9.

23. R. *Infus. Gentian. comp.* oz. j. *Liquor Potassæ Subcarb.* dr. j. *Tinct. Cascarillæ.* dr. j. M.

24. R. *Infus. Cascarillæ.* oz. j.

Some prefer the *above* draughts to No. 1.

CAUTION.

A necessary precaution ought to be mentioned at the close of this paper. Wherever cases of Cholera Morbus occur, it should be distinctly understood, that fresh air must be admitted into the apartment of the patient, wherever attendance is required. For though the disorder is not contagious, yet at a time when we are involved in malaria, additional danger would result from the infectious air of close apartments.

ERRATUM.—In page 6, line 24, for "lunar" *read* "human."

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