PART THIRD.

Original Communications.

ART. I.


As a preface to the sketch which I propose to give of the course and dispersion of the Oriental plague, yellow fever, and of malignant cholera in different countries since the beginning of the present century, the present paper will be occupied with some remarks on the subject of the chronology and geography of epidemics in general, and on the importance of greater attention being paid to this, as yet most imperfectly explored, branch of medical inquiry.

At the meeting of the International Statistical Congress held in London in the summer of 1860, I had the honour to read a paper—subsequently printed in the 'Transactions of the Congress'—on the importance of instituting a system of international registration of epidemics, by the regular notation and record, from year to year, of some of the chief diseases of this class in the principal countries of both hemispheres. "Hitherto," I then remarked, "but little has been done in the way of observing and registering the geographical and chronological development and distribution of these distempers over extensive regions of the globe. The researches of almost all inquirers having been confined to their own country, and very generally to only one division or district of their country, it is obvious that unless similar researches are being carried on simultaneously in other countries, contiguous and more remote, some of the most interesting problems of epidemiology—such as the migratory course of certain pestilences, their recurrence at irregular intervals, their subsidence at one time and in one locality, and their appearance at and in another, &c.—can never be hoped to be elucidated."

I had long been of opinion that there is probably more connexion between the development of the same epidemic disease in various countries, and also that there is more relation between the successive occurrence of different epidemic diseases, one following the other, than has been generally imagined; and certainly the extensive investigations resulting from the large inquiry into the subject of quarantine
Professor Willis, in his recent presidential address to the British Association, observed that the system of vaccination had been applied with advantage in various parts of the country and that its results, as far as he knew, had been uniformly successful. He had also noticed with satisfaction the recent establishment of a systematic record of the occurrence and distribution of the disease, and the effect of the system of vaccination. The system of vaccination had been adopted in various parts of the country, and the results had been uniformly successful. The establishment of a systematic record of the occurrence and distribution of the disease had been uniformly successful. The results had been uniformly successful.
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antecedent epidemic of the same disease or diseases to be now recorded,
and the extent and fatality of that invasion, so that a comparison
might be made between the two successive outbreaks.

The proposed scheme excited a lively discussion in the section of
sanitary statistics at the Congress before which it was brought forward,
and all the speakers, both foreign and British, agreed as to the great
utility of the suggestion, if it could be carried out systematically and
uniformly in different countries at the same time. By no one was it
more warmly approved than by the late Dr. McWilliam, than whom
certainly no member of the profession was better qualified to judge
from the devoted attention which he had so long paid to epidemiolog
research. "Among other advantages," he said, "that would result
from the adoption of the propositions in Dr. Milroy's paper,
would be that of assisting us very materially in determining the origin
and mode of propagation of certain epidemic diseases, whose qualities
in these respects are not as yet clearly understood. Simultaneous
observation is the most likely means of enabling us to seize the first
cases of an epidemic; and all in any degree acquainted with etiological
inquiries know how greatly the whole history of an epidemic hinges
upon these cases, whether the epidemic shall have broken out in one
locality only, or simultaneously in various localities far distant from
each other. The present period appears peculiarly favourable for the
investigation of epidemics, as we have of late years seen diseases of
that class invading countries and reaching altitudes that had been from
time immemorial exempt from them." Dr. McWilliam here alluded to
the remarkable geographical range, in respect both of surface, extent,
and of altitude above the level of the sea, as well as to the persis
tence of the yellow fever in the New World, since it first appeared in
the Brazils about twelve years ago, from which time it has not only spread
over the entire of the Gulf of Mexico, the West Indian Archipelago,
and most of the southern and central provinces of the United States,
but has also extended to the Pacific side of the Continent of South
America, cling to certain regions and localities with extraordinary
tenacity. "This extension," he remarked, "of so fearful a visitant
beyond its usual haunts is, humanly speaking, a great and serious
calamity; but it may nevertheless help us to a better understanding of
the nature and properties of that scourge of hot climates, by enabling
us, through simultaneous observation in different localities, to grasp in
each the occurrence of the first cases, and thus trace the disease in
each locality to its origin."

The soundness of these remarks will be appreciated by every one
who has considered the subject; they clearly and forcibly express the
object of my proposal, the scope of which was at the very same time
being illustrated in a striking manner, in another section of the Con
gress, by the remarks of Admiral Fitzroy, on the kindred subject of
meteorological statistics. He said:

"Much has been effected during the last two years by simultaneous
observation at many places, in addition to the registration of atmos
spherical occurrences sedulously carried out at sea and on land in many
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parts of the world. Practically these extensive observations of facts occurring in various climates, and under a variety of conditions, from Arctic or Antarctic regions to those of the tropics, have directly tended to prove the uniformity of those laws by which our atmosphere is governed, and the differences of climates determined. Meteorology, which had been thought a complicated and vague subject, has approached the character of an exact science. It is now by no means difficult to describe the climate of any given place of which the geographical position is known. More than this, however, and more directly valuable is our confirmed knowledge of the laws of storms, and our further acquaintance with the nature and succession of the prevalent or various winds over the earth and ocean. The registers returned from numerous ships, among the finest of merchantmen besides men-of-war, now constitute a mine of valuable maritime and scientific information.

After mentioning various practical results of high value to navigation which have already been obtained from the system of accurate and extended observation now pursued, Admiral Fitzroy showed that all great disturbances or distempers of the atmosphere are preceded by barometric and thermometric indications, which to the watchful and intelligent observer serve as prognostications of what is approaching, and as suggestive warnings of what should be done in the way of precaution and defence. These atmospheric vicissitudes are not, as it used to be imagined, sudden and precipitate in their occurrence; but they take place gradually, and, so to speak, progressively, and it needs but the diligent notation and recording of appreciable signs and phenomena to follow their development, advance, and decline. The barometer affords almost infallible indications; and, by noting at the same time the states of the thermometer, the direction of the storm or of the quarter whence it comes may usually be predicted. The shape and character of the clouds, and the colour of the sky at morning and evening, also serve to assist the observer. Moreover, a knowledge of the state of the weather for some days previously gives much aid in foretelling any great or violent changes. When the indications of bad weather exist a long time beforehand, the gale will probably be of some duration; when they appear suddenly and at short notice, the storm will generally be short also. It is only by due attention to not one, but all the signs derived from the sky, from the past and present state of the weather, and from the indications afforded by scientific instruments, that an accurate foreknowledge of coming atmospheric disturbances is to be looked for.

Now, surely all this cannot but be of significant interest to those who seek to promote the successful investigation of other and not dissimilar departments of physical research. When we are told that within the last few years only meteorology has, from being not much better than a heap of guesswork and mere conjecture, now risen, in the hands of M'arry, Fitzroy, and others, to such importance as to be a recognised branch of accurate scientific inquiry worthy of the support of great nations like Great Britain and the United States—con-
contributing as it has done, not only to the improvement of navigation, and thus greatly shortening the length of voyages between distant parts of the world, but also to the saving of much life and valuable property, by providing the mariner with, so to speak, a system of signals by which he may forecast the weather, and thus be prepared against storms before they reach him—may we not reasonably entertain the hope that, in the other fields of allied inquiry, similar results might be obtained by following a like comprehensive method of scientific investigation? It must, I fear, be confessed that epidemiology is still very much in the position in which meteorology stood not many years ago, consisting mostly of detached facts and statements, which are too often very imperfectly recorded, and apt to be mixed up with mere speculation and conjecture. There have been few attempts at anything like continuous and connected observation over a sufficiently extensive area, and the result is that as yet but little progress has been made in the firm establishment of large general truths. Much of the difference and discrepancy of opinion that still prevail among medical writers on various points connected with the rise and spread of many epidemic diseases is doubtless traceable to the common practice of reasoning from insufficient data gathered from a very limited field and over a very short period of time. And certainly it is not very creditable to the profession to find that in medicine, as in some branches of purely speculative inquiry, there is every now and then a tendency to something of a cyclical revolution of doctrine on questions which may be brought within the domain of accurate observation and strict logical induction. We may be assured, from the analogy of all the other departments of physical inquiry, that there is far less irregularity and variableness in the occurrence and movements of epidemic diseases than is generally imagined, that there are manifold links between them of which as yet we have no idea, and that all the seeming disorder and confusion in their course and career are due much rather to our purblind ignorance than to anything inherently fortuitous or accidental in their distribution. True, there is indeed "a maze, but" it is "not without a plan," and sound philosophy will, it may be safely presumed, one day point to the same great truth which simple faith receives, that—

"All Nature is but Art unknown to thee,
All Chance, Direction which thou canst not see."*

By briefly noticing one or two points in the history of some epidemic diseases, it will be seen, I think, that there are sufficient grounds

* Not only has it been shown that there is an "art"—i.e., design and order in the course of many phenomena of Nature which were once deemed to be "chance" and irregular, but some most unexpected coincidences between the occurrence of certain cosmical appearances, between which no one could have conjectured any probability of agreement, have been discovered by the patient and continuous observation of independent inquirers. A remarkable instance of this is afforded in the case of magnetic storms, which have been shown to observe regular periodic intervals, while certain of these intervals have been found to coincide exactly with the periodic phases of increase and decrease in the spots observable on the disc of the sun.
for the expectation now expressed. And first as to the circumstances which ordinarily attend their manifestation.

An epidemic outbreak, at least of those diseases to which attention will be specially drawn in subsequent papers, is not, as has generally been imagined and often confidently asserted, a sudden or unheralded event. It is usually preceded by various signs or phenomena which the careful observer will seldom, if ever, fail to discover. The meteorological conditions are often irregular and distempered. There is, too, a greater amount of sickness of different kinds than usual, and the common maladies frequently exhibit anomalous and peculiar characters. Generally, the prevailing sickness is only a milder and less developed form of the approaching pestilence. Thus the cholera has usually been preceded by epidemic diarrhoea of a choleraic type; the yellow fever by irregular and unusually severe forms of endemic malarial fever, often associated with troublesome bowel disorders; and the plague has almost universally been ushered in by typhus, which so gradually lapses into the more malignant and dreaded disease, that it has been impossible to determine with accuracy when the earliest developed case of the latter took place.

As to the spreading of epidemics, all evidence seems to show that their diffusion is mainly affected through atmospheric agency, although other and more partial agencies may certainly aid in their dissemination. The diffusion by the atmosphere appears to take place in a two-fold manner. Pestilences have often been migratory upon a great scale, travelling on from the country where they sprung up to other and distant lands, and this too by successive although irregular marches, very much after the similitude of the progression of insect swarms from one region or continent to another. In former times, the plague, as the "black death," steadily advanced from the confines of China—as epidemics of influenza have been known to do so in more recent times—across Thibet and Persia to Southern Russia, and thence spread itself over almost every country in Europe, extending even to Iceland and the shores of Greenland. In our own days, the pestilence from the delta of the Ganges has been seen to follow nearly the same track, and with like desolation; and within the last few years, as mentioned above, the yellow fever of the New World has exhibited a diffusive energy unknown before, extending its ravages from the thirtieth parallel or so of southern latitude to the fortieth degree of north latitude, and from the seacoast of Brazil to the western coast of South America along the shores of Chili and Panama. These wide migratory movements must be due to an impelling power present in and acting on the atmosphere, but which has hitherto eluded our knowledge. Is it, however, unreasonable to suppose that if accurate registers were kept of the exact dates of the development of the disease in various localities in the different countries visited, together with a reliable record of the simultaneous meteorological and other physical phenomena, some connexion might one day be traced between them, and some approach be made to the discovery of a law of epidemics, as there has been of recent years to the discovery of a law of storms?
All is certainly a mystery at present, from the utter want of trustworthy data respecting the phenomena in question, even upon the most limited scale, far less over a wide geographical area.

When the epidemic poison has reached a large district or region, its mode of atmospheric diffusion appears generally to be by a larger or smaller number of nearly simultaneous or quickly successive scattered spots of infection, or as it were of fermentative action,—these spots being at first irregularly detached and separate from each other, but gradually enlarging and extending by the development of new and more numerous spots, until at length they more or less completely coalesce, and the atmosphere of an entire district, or of a large portion of it, become the seat of morbid activity. The very accurate investigation, instituted by the General Board of Health, and conducted by Dr. Parkes, of all the early cases of the cholera when the pestilence appeared in London in the autumn of 1848, fairly leads, as it seems to me, to such an explanation of its mode of spreading over the metropolis upon that occasion; and the table of the dates of its appearance in different parts of England and Wales during 1848 and 1849, given in the Registrar-General’s valuable report on the epidemic, seems to point to the like conclusion. If we possessed many such reliable data and documents as these in respect of this and other diseases of the sort, we should not be so ignorant as we really are about the usual mode of the development of epidemics.

But besides the two modes now indicated of general diffusion through the medium of atmospheric agency, a pestilential disease is endowed with the property of increase and multiplication in the bodies of the sick, and of being, under certain favouring conditions, communicable from the sick to healthy persons around them,—these latter often becoming, under similar circumstances and conditions, the instruments of a wider propagation. This property is usually known by the term “contagion,” hitherto a most fruitful theme of controversy and dispute among medical men, owing in a great measure to the defect of exact information as to the particulars of each case or set of cases, and also to the field of observation being in many instances far too partial and insulated. This subject, like many others, cannot fail to have light thrown upon it, when the topographical and geographical course of diseases, in connexion with their chronological appearance in different localities, comes to be more attended to. It was incidentally introduced into the discussion which followed on the reading of my paper at the International Congress, and on that, as on almost all other occasions, the great want of a comprehensive examination of the subject was but too obvious. Individual instances are apt to be regarded as general occurrences, and occasional and conditional phenomena to be exalted into facts of universal application.

Among the many other topics of epidemiological inquiry that still await authentic and accurate illustration, may be enumerated the usual duration of epidemic invasions in a district, a country, or over a still wider region—the ordinary intervals of time between epidemic invasions of the same disease—the synchronism or the sequence of different...
epidemic diseases, with the view of ascertaining if there be any
relation between their occurrence; the connexion, if any such really
exists, between epidemics in man and epizootic and epiphytic dis
temperers in animals and in plants; the disappearance for lengthened
periods or the total cessation of some diseases, and the increase and
aggravation of other diseases; the occasional up-springing of entirely
new or of long absent maladies. These, together with the geographical
range and limits of different epidemic diseases, the influence of race,
age, and sex, as well as of all external or physical agencies, in con
exion with climate, locality, habitation and mode of living, food, &c.,
all require to be far more scientifically investigated, and on a wider and
ampler field than has yet been attempted. Let me briefly allude,
en passant, to the intervals between epidemic outbreaks of a disease in
different countries. These intervals have doubtless varied much in
duration at different times and epochs, but from the want of anything
like exact information, we are unable to speak with any precision.
Sometimes these intervals have been not more than three, four, or five
years; more frequently, they seem to have been from ten or twelve to
fifteen or twenty years. Occasionally, the intervening periods between
successive visitations appear, judging from the very imperfect records
of such events, to have been much more lengthened, as from eighty
to a hundred years, and even more. Such was believed to have been
the case with the visitations of the plague at Malta prior to the last
outbreak of the fever in that island in 1813, and also with the out
break of the yellow fever in Brazil before its reappearance in that
country twelve or thirteen years ago. But in reference to these and
such-like statements, we should ever keep in mind, that just as the date
of the first-published description of a disease is by no means to be re
garded as the true date of its first and earliest appearance in a country,
as the want of any published record of subsequent visitations is far
from being anything like a positive proof of its complete absence.
Nevertheless, from the analogy in the history of blights in the vege
table world, and of other occurrences in physical geography, it seems
not unlikely that occasionally very lengthened intervals may elapse
between the recurrence of some epidemics.

The subsidence and cessation of certain diseases in countries at one
time infested with them,—as, for example, of the sweating sickness in
England, although it continues to exist to a partial extent in other
and adjoining countries,—is a subject manifestly of importance to all
persons, and should be one of surpassing interest to the physician,
whose duty it is sedulously to examine into all the antecedent and con
comitant circumstances with the view of discovering the causative
relations of so notable an event; for that the agencies which have
produced it are discoverable, we cannot reasonably doubt. In many
instances, the cause or causes of the decline or total disappearance of a
disease from a district are readily recognizable, as of dysentery, age;
and other allied maladies from wet and marshy localities after the
thorough cleaning and drainage of the land, and the dietetic ameliora
tion of the inhabitants; and also in the equally conspicuous case of
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typhoid and typhus fevers from the foul and crowded lanes of large
cities, prisons, workhouses, and ships after the due sanitary improve-
ment of their condition. And, doubtless, what has been effected for
the subjugation of these maladies, is capable of being done in respect
of various other endemic diseases, which enfeeble and destroy the
health of the people in every region of the world, and occasion nine-
tenths of the physical wretchedness, and not a little of the intellectual
and moral degradation among the working classes. In other instances,
on the contrary, and this remark applies more especially to the class
of the exanthematous fevers and some allied maladies, but little, if any,
progress—save in the all-important matter of vaccination for the con-
rol of small-pox—has yet been made in the discovery of prophylactic
or preventive remedies.

Then, again, in regard to another curious and highly-interesting topic
of inquiry—viz., to the possible inter-relation, or, in other words,
the connexion in point of sequence, of the epidemic invasions of dif-
ferent diseases, what a large field for investigations is still unexplored!
The first visitation of cholera to Europe in 1830–31 was immediately
preceded by a memorable epidemic of influenza, and on the second in-
vasion in 1848, a like antecedence again occurred; but then this seem-
ing connexion was not observed in 1853–54; and, moreover, epidemics
of influenza have repeatedly taken place without being followed by
any form of choleric distemper. On several occasions, an epidemic
of small-pox has followed immediately upon the heels of epidemic
cholera, as in the visitations of this pestilence in Jamaica and in several
other West India islands, and also in the Mauritius and elsewhere.
It has been stated of recent years that at New Orleans and various
other countries where yellow fever is apt to prevail, epidemic outbreaks
of that disease have been far more frequently preceded by epidemics
of scarlatina than of any other exanthematous fever; but whether this
antecedence has been only incidental and fortuitous, or whether there
be any connexion whatever in the prevalence of the two maladies, it
is at present impossible to say. That measles and hooping-cough very
often go together, or follow immediately one upon the other, is of
common remark; and the same thing may be said in regard of these
diseases and of the various forms of cynanche. Prior to the intro-
duction of vaccination in Scotland, epidemics of small-pox are said
to have been usually followed closely by measles, which was then very
generally more fatal than when it appeared under other circumstances.

Whatever doubt there may be as to the synchronous or sequential
connexion of different epidemic disorders, there can be none as to the
frequent antecedence of a sickly state of the general health in a dis-
trict or country before the developed appearance of certain pestilences.
Outbreaks of continued fever in this country have, over and over again,
been preceded by an unusual prevalence of diarrhoea and other forms
of intestinal disturbance, with or without the concurrence of catarrhal
ailments. This point is frequently mentioned in the history of epide-
mic fever in Ireland, and also in the medical Reports of the army
in connexion with the sickliness of certain regiments and of particular
barracks and cantonments in different places; and, what is highly interesting, the very same remark has frequently been made in respect of the yellow fever of hot climates, whether it occurs among a population on shore or on board of ship—viz., that, before any severe outbreak of this deadly disease, bowel disorders have generally been observed to prevail among the inhabitants or the crew for some time previously. In the carefully-observed epidemics of this fever at Bermuda in 1843 and in 1854, this fact was markedly observed. The strikingly-increased prevalence of diarrhoea in London and in England generally, for several years prior to the epidemic of cholera in 1848—9, was ably pointed out by the late Dr. Southwood Smith; and without mentioning other illustrations of a like nature, I will only allude to the notable change, within the last thirty years or so, in the general constitution or basis of disease to a more decidedly asthenic type than previously existed in many countries on the continent as well as in Great Britain, ever since the first European visitation of the malignant cholera. Whether this change in the prevailing type of disease had been noticed prior to that remarkable epidemiological event, we have not the means of ascertaining. It would be a matter of no small interest if we knew with any degree of precision the state of the public health, more especially over the Eastern portion of Europe, as in Poland and the adjoining provinces of Russia, from 1827 to 1830, during the lull for two or three years in the onward westerly march of the great epidemic from the plains of Asia.

From these and such like considerations it will be obvious, I think, that it is not possible to form anything like accurate opinions on the principal features or attributes of a spreading pestilence from the experience, however large, obtained in one locality or district alone, and that error can scarcely be avoided by him who endeavours to build up a doctrine on data derived from his own limited sphere of observation. The commander of a regiment may narrate more accurately than any other person the operations in a battle where his own men were engaged, but then he is apt to attach undue importance to what came under his own immediate notice. The staff-officers who were moving to and fro, and were thus acquainted with what was going on in almost every part of the field about the same time, will better appreciate and more truly describe the bearings and results of the various movements upon the general issue. And so it is in a great measure with the history, to be correct, of an epidemic invasion. The disease requires to be seen in different localities, districts, and countries, among the different classes of society, and under the numerous differences of local peculiarity. It is indeed most necessary for the advancement of scientific truth that a careful examination be made, and recorded at the time, of the facts connected with the origin and spread of the dis-temper in the individual spots where it appears; but it is no less necessary, before any generalizing deductions are hazardied, that the observer should know what was taking place about the same time in different places, whether adjacent to or more remote from the spot where he was placed; otherwise he will almost infallibly be misled in forming
his conclusions, just as the hydrographer would be who should attempt an account of the tides in a particular harbour, without any reference not only to their rise and fall at other points on the same and neighbouring lines of coast, but also to the general currents of the great ocean streams. There must therefore be a system of accurate geographical, as well as topographical, record established before epidemiology can attain to the position of a true branch of physical science.

Now the question comes to be, how should this desirable information be sought for, and what existing machinery is there in this country by which we can most readily and most usefully do our part in the great scheme of an international registration of epidemics? From the statements of Dr. Berg and of Dr. Neumann, the delegates from Sweden and Prussia at the Statistical Congress, it would seem that much more attention is paid in these countries than in our own to the regular registration of epidemic diseases; and the same remark holds true of France also, where a systematic investigation of all severe outbreaks of these disorders has long been practised. But none of these countries possesses anything like the facilities for the work and for the prosecution with advantage of this important part of natural science as Great Britain; and this, too, in respect not only of its own people, but also of foreign lands, and indeed of every part of the world. Through the machinery of the parochial medical officers dispersed through the United Kingdom, it would be most easy to establish a system of accurate notation and record of all domestic epidemics. It was stated by M. Quetelet, the distinguished statistician of Belgium, in presenting to the Congress a proposition from Captain Maury, a proposition for instituting a still more extended observation of meteorological phenomena in different countries than yet exists, that there were more than two hundred observers conducting such investigations throughout England alone, and that the results obtained by a large number of these gentlemen were regularly transmitted to the Registrar-General, and published at the expense of Government. Moreover, there is at the Board of Trade an established meteorological department or office, under the direction of Admiral Fitzroy, and with assistants under him, for the express purpose of utilizing for the public good the information obtainable from systematic and sedulous attention to the ever-shifting phenomena of the atmosphere.* Now, why should there not be some arrangement of the kind for the observation and record of epidemic phenomena in the manner and through the machinery indicated above, and in connexion either with the Poor-Law Board, which has the general supervision of all the parochial medical officers, or, if deemed better, with the medical department of the Privy Council, entrusted as it is with the care of the public health of the

* "In 1854, in consequence of representations originating with the British Association, our Government created a special department in connexion with the Board of Trade, under Admiral Fitzroy, for obtaining hydrographical and meteorological observations at sea, after the manner of those which had been for some years before collected by the American Government, at the instance and under the direction of Lieut. Maury."—Professor Willis, loc. cit.
country? That a vast amount of public good would be effected by the early discovery of zymotic disease in different localities, and by determining with precision the districts of the kingdom where they most prevail, will not be questioned by any one in the present day, when the importance of prophylactic and preventive medicine is so generally acknowledged. It is thus alone that the surest means for the mitigation and diminution of much pauperizing sickness and fatal disease among the working classes of the community can be reached; and on this ground alone, apart from other considerations, the subject well deserves the earnest attention of our governmental authorities.

Then as regards the opportunities possessed by Great Britain in acquiring reliable information respecting the prevalence of epidemic disease in foreign and distant countries, how readily and promptly they might be had through the medium of our consuls located in every land, and of the governors of our numerous colonies dispersed over every region of the globe. It requires but directions to be given by our Foreign and Colonial Secretaries of State to these functionaries to add to their annual reports sent home on the trade, commerce, &c., of the place or country, and on the general condition of their populations, a short statement from a resident medical man as to the public health, and the principal diseases which have prevailed during the preceding twelve months. That such information would be willingly given, and that our consuls and colonial governors would themselves feel an interest in procuring it, was shown by the large amount of most valuable materials procured in this way by the Quarantine Committee of the National Association; and the plan is now being followed in the comprehensive inquiry into the subject of leprosy by the College of Physicians, at the request of the Government. In addition, too, to these varied sources of authentic information, foreign and domestic, the annual health reports of our army and navy, such as no other nation in the world possesses, will be found to afford much highly interesting knowledge respecting different epidemics. From such manifold channels, what an amount of precious raw material for scientific elaboration might readily be had; and with such information in hand, how easy it would be to construct charts and maps illustrative of the diffusion and course of a set of cosmical phenomena which as yet have scarcely been thought of!