 Epidemic Influenza of 1889-90
with cases: and a Review
of Similar Epidemics since 1570

by

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"Epidemic Influenza of 1899-90 with Cases
and a Review of Similar Epidemics Since 1500

The Malady, which forms the subject of the Essay, has of late attracted considerable attention amongst the members of the medical profession in all parts of the world, more especially in those parts that have been the scenes of the recent epidemic.

The disease in question is by no means a modern one for it is described in an Irish manuscript of the Fifteenth Century under the names of Infecht and Plaeden. It was also epidemic in Ireland in the Fourteenth Century. In fact there is no doubt that the disease is even more ancient. Thos. Thomsen in his "Annals of Influenza" states that a malady, the symptoms of which resemble closely those of Influenza is alluded to in early Gaelic manuscripts under the term Cretan probably from Creal, the chest.

The first mention of the disease in the British Isles of which there exists an accurate description is that of the year 1570, written by the pen of Dr. Short in his Monograph printed in London in 1749 and Dr. Short's description is as follows:

"The disease called Influenza (because the sick wore a cap or coming close all over their head came from the island of Malta in Africa)"
hilts Sicily, Souto Spain and Italy from that over the Alps into Portugal and Hungary then over a great part of Germany down to the Baltic Sea, every month altering its situation with the wind from East to West, South to France Britain.

It attacked at once, spread all over Europe. Lines of sickness and sorrow. A vague pain of the head, heaviness, difficulty of breathing, hoarseness, loss of strength, appetite, restlessness, hiccoughs from a terrible tearing cough. Presently succeeded a chilliness, or a violent cough, that many were in danger of suffocation. The first days it was without spitting, but about the seventh or eighth day much viscid phlegm was spilt up. Other things feared but only water for the. When they began to spit, cough and shortness of breath were distress. Some did. Except some children. Some it went off with a looseness; in others by emitting bloody and purging the stool.

Olive and ammonia was chiefly useful, with oily linseed's pasted troches and decoctions.

When blood was let the disease from malignant and pestilential being attended with a violent Cough and inroads of phlegm, and made bad stock it was proceeded by a long thirst.

The ancients attached considerable importance to the coincident or preceding meteorological conditions taken to the condition of the (omission)
forms of annual life as possible causes of such diseases. Remarkable storms, probably this epidemic, there was an eruption of Mount Etna earthquakes & in the following year a Comet. It is curious to note a point frequently found in recent epidemics of this disease that humour was prevalent among cattle (at Messina).

In the year 1587 a similar epidemic is described in Short's History. It took a watery course from Asia, by Constantinople to Europe afterward visited America.

It was preceded by offensive fogs followed by floods; there was great death in England owing to the last season which preceded the harvest. The disease commenced in October after a month of unusually cold winds. This year there has been a Comet; in the previous year there was an eruption of Fire. In 1567 came the plague.

Symptoms: Very similar to those of the epidemic of 1670. The illness, fever seems to have assumed a different type. Pain in the side may be a common complaint. The fever appears to have been greater than in 1670 & especially fatal when affecting pregnant women.

Treatment: Gentle bleeding the first day was helpful though lancet incision with cupping was generally preferred. For the cough and hoarseness, medicinal toky mixture were prescribed.
Commenced in October following cold dry weather preceded by a long spell of sun in the warm and fining seasons. Numerous earthquakes were felt in Yorkshire and Kent. Some remarkable actions were observed in November.

Murrain was prevalent among beast in Kent as well as a plague of swine, birds migrating/burning and cattle deserting their pastures.

The epidemic was succeeded by measles and small pox; both in 1583 Hypercume Chamber and in 1584 the plague.

From East to South, & West and North

Pains in the head, fever. Some were disposed to sleep. Others were restless. Then followed a dry cough. In the pains in the chest--roughness of the throat. Hoisting was a rare frequent symptom, and shedding was often complained of. Swellings of the parted glands occasionally seen.

The mortality was comparatively low, though the disease spread fast, only the weakly, those who had been drunk or succumbing.

Cooling draughts and expectorant medicines helped. Only reticula to them symptoms of pneumonia or pneumonia appeared as when there was haemorrhage.

Occurred in April, in the rudiments of a new crop. Spring. Large numbers of persons were attacked but it was matted with a large mortality, excepting in the case of the aged or those of weakly constitution. The disease only lasted for one month.
The Summer and the Autumn preceding the Spring of 1675 were both remarkable for the
warm weather that prevailed. Hence, when the intense cold of the Spring followed and the
disease in question appeared, it was thought to be due to the sudden cold elongating the
circulation, closing the pores of the skin, giving rise to the symptoms of fever (cough).

Very similar to those described in the former epidemic, but dysentery, diarrhea and
epistaxis, a Koppe’s and feverish delirium. The new affections were

Symptoms

Treatment

1675

It was frequently found that patient went
in a few days of sleep—quiet and warm without
any medicinal treatment.

Prevalent in the Autumn after much frog, following
cold moist weather, the preceding summer in
very hot. An epidemic of this took place.
The disease as usual spread few persons and
the mortality was low.

Symptoms

Cough, fever, pains in the head, back, limbs and a
condition known as pleurisy. Stiff rather than
pleurisy, in addition, salivary, arrangements
and intestinal disorders were marked with
flatus, cold, blistering the teeth, dysphoria,
diabetes and bleeding from the arm with
caution in the early stage. Moderate exercise,
and fresh air were prescribed for some, with a view to setting up a healthy action of the skin. The disease was of short duration.

In 1688 an influenza visited Dublin preceded by a blizzard, probably spreading, above all, especially among horses, then encamped on the Curragh. In the spring, during April, a very severe cold, succeeding along continued and intense cold, severe cough, fever, quick pulse and headache. Plague broke out the following year.

After a rainy November with high tides. The symptoms were: a cough, fever, headache, and loss of appetite. Onset was quick, bleeding, blistering, occasionally purpura, motion, leg pains, dilution drinks, and antimony to alleviate the cough.

This influenza had peculiar inasmuch as it did not appear to spread from place to place as quickly as some ones. It was reported from Edinburgh in November 1782 at the beginning of summer and autumn, it appeared in London in the early spring of 1783 preceding a Quality reduction. At the same time, volcanic symptoms were noted at Aquia, Biscarosse, and Cornwall. There was a very cold summer with mild summers. The year was dry, coldly with the coldly winds.

In the heat of the summer more horses experienced in London at the decline of the disease. Measles preceded the epidemic, cholesty diarrhea, and heroin followed it. Concurrent cough, fever, and headache among horses were prevalent.
Huxham says (quoted by Thompson) that the disease "let a house be free from it, the beggar's hut and the nobleman's palace were alike subject to its attack. Scarcely a person escaping neither in town nor country, old and young, strong and weak shared the same fate." Its onset appeared to have been very sudden.

Fever, pains in the head, various parts of the body, troublesome cough with much expectoration. Cough, sneezing, quick pulse. Cold tongue, diarrheoic diarrheages; frequently purulent discharge from the nose, lungs, and bowels; occasionally swellings of the patient's submaxillary glands also the testes. The urine was high colored.

Great restlessness, shoot, stiffness with "tumor auriculae" were frequently complained of. Severe thirst, profuse sweating, were common symptoms. The disorder generally resolved in about four days either by a critical chill accompanied by the breaking forth of fever, blisters, "(Huxham) or by a critical evacuation of the bowels."

The disorders tended to leave the patient with a troublesome cough and debility out of all proportion to the duration or severity of the attack.

Skin itch, alveolus furrows, bleeding in the chest. In the early stages, blisters, or purulent discharges, expectoration of phlegm, increase and medicines to aid expectoration relieve the cough. Fatal cases were rare and generally due to individual weakness.
Commenced in November, resembled cholera more than the epidemic of 1737.

An epidemic of melancholy took place in the year. Earthquakes were common to Cornwall, was observed as well as some remarkable fevers. In addition, there was much disease among horses. Numbness, dizziness, disorders, appleey [palsy] prevailed as subsequent phenomena.

Fever with vomiting. Cough, pain in the back. Swelling of the tongue
Some inflammation of the throat were common. Sometimes amounting to haemorrhage. Generally discharge of an acrid fluid from the mouth nose with
Swelling of the face and the salivary glands.

Rheumatic pains, tooth ache (in those without Caries teeth) and Rheumatic pain frequent symptoms. Tongue was coated white, bowel discomfort, were common. Some high color and luster. Occasional delirium

Huxham attributed the disease to the thick damp, chilly disposition which closed up the Spinacea or pores of the skin and at the same time accumulated a quantity of acid colliquiae within the body. The epidemic lasted one month, but left behind a great mortality.

Same as before, but for the relief of Sequela Huxham, Cathartics were found useful though Huxham preferred the use of Antimony in

When the disease abated many persons died of phthisis.
Epidemic 1743.

Disease is the Spring, following the severe

Epidemic winds. The previous year was remarkable

for the abundance of fruit. Orange, plums and

Cough very prevalent at the time among horses.

Aurora Borealis frequent. Great atmospheric


This Epidemic was preceded in 1741 and 1742 by

Small pox. Measles, Whooping Cough.

Great basaltude, shivering, pains in the head

Camos and the back, loss of taste and appetite;

inflamed eyes frequently sight losses. Subsequently

were seen then there, Pasteur Symptom upon

the skin, Dysentery, hallucinosis. Rooms were

very prevalent.

Similar to that adopted in the former Epidemic

The fever as usual abated in from two to five

days. The basaltude has comparatively small.

Commenced in September, during Vestale, was

very prevalent in Scotland & irregular in it, came

Prior to the Epidemic, Dysentery, Flame kerate

very prevalent. In 1759 there were every Scotkirk

An incident known as the Boston's typographers

appeared in the Harz forests in 1759. Between

that year and 1783 to calculate these

destroyed one million and a half of trees.

In February 12th, 1759 J. Robert Whytt, Professor

of Medicine in the University of Edinburgh, read an

account of an Epidemic, Distemper at Edinburgh

and several other parts in the South of Scotland.

in the Autumn of 1758. On reading Dr. Whytt's
account as quoted by Thompson. The European is greatly
struck by the resemblance of this Epidemic to the
one that has so recently invaded Britain and
other countries.

The disease attacked a very large proportion of
the inhabitants, and its duration was about
six weeks. Dr. Wright attributed its decline
to the fact that most of the people had been
attacked. He believes it to be Intestinal, but
owing to the fact that whole families appear
to be attacked simultaneously, he thought that
it must be due to some peculiarity in atmospheric
condition.

Coughs and colds were very prevalent among
horses, prior to the Epidemic.

The chief peculiarity observed was the Symptom
that the Throatous Membrane was
excoriated throughout its whole length: division
of profuse Syden cries was commonly felt, with
Rest in bed, medicine, to promote sweating,
occasional applications. In cases attendant with
high fever, bleeding was advised. Expectorants
for the Cough, including Stimulants, were
prescribed.

Cold, Shivering, Nervousness, and Somnolence were
frequently observed as Sequel.

The decision of Professor was in favour of
Dr. Wright's theory of non-contagion. The spread of the
disease being attributed to atmospheric condition.
Commened in September, after warm and variable weather. Various insects were prevalent and most destructive. A Comet was also noted. In 1763 there was an Eruption of Terra.

In 1764 Dr. George Baker wrote an account of the Eruption. In the course of his remarks he observes that the Spring and Autumn of 1761 were very mild, the succeeding Winter and Spring very cold, followed by very variable temperature. Dr. Baker was at a loss to account for the appearance of the disease. Considering the cause to be wrapped in mystery, he agreed with Sydenham that "Concerning the nature and quality of that disposition of the air on which the disease depends, as well as of many other things on which the existing and augmenting crowds of Philosophers' Tuffle, we are totally ignorant."

Within 20 days of the outbreak of the disease in London, the majority of the population were attacked, the aged and as per natural, those of a phlegmatic habit, and "women whose Catarrhal bile interrupted" also fell severely (probably because of their greater exposure, inculcations to restricted diet, and inability to eat). The three who suffered chiefly, when attacked, were children, men and in the head and feet; troublesome Cough and pain below the Sternum. In each according to Dr. Baker "as though the Whale Comme of the windpipe to the Suny from Cartilage was abraded."

Baker's treatment was by Thomson.
In addition to epigastric sensation and pain in the extremities, were frequently complained of. The appetite was impaired, and the tongue presented a cream-like coating as described by Huxham in his work *Epidemic* (1737-8). The urine in most cases was dark and turbid, and the mental and physical depression were very marked.

Many pregnant women in London attacked with the disorder, aborted, or were permanently confined. Pneumonia, and pneumonia, developed in the most severe cases.

The type of fever was often to vary, sometimes resembling that observed inague.

The complaint usually terminated by a critical sweat. The rate of mortality differed in different places.

Subsequently, diaphoresis prevailed, and gastric and intestinal disorders accompanied with fever. Dr. Baker prescribed absolute rest, restricted diet, deep breathing, anemesis, and occasionally purgatives. He advocated strongly bleeding in the early stages. In the bleeding he urged purging. Salient drugs and opium were found useful to allay the Cough. The medicine being freely averted by the application of a blister to the chest. Which was also of service in relieving local pain. During Convalescence Peruvian bark was found to be a most useful tonic.
This epidemic was very widespread throughout Europe and was especially virulent in Venice—Paris alone, amongst large towns, seems there escaped.

As to the question of contagion, Dr. Baker was inclined to the view that the complaint was contagious, for it appeared to follow no fixed course, was more prevalent in cities than in neighbouring villages. More on London was the first city in Britain attacked, and then first Strathclyde down in the town had generally recently arisen from the metropolis, and appear East as centres of infection.

Other observers state that women were attacked more frequently than men, that children (especially "flemish") and occasionally a measles eruption appeared upon the skin.

Begun in London in June following extremely cold weather, the epidemic was less severe than the one described above. It was characterized by loss of appetite, lassitude, fever, pains in various parts of the body, and cough.

Prevailed during a wet autumn. To this ill

writing in December 1775 described the epidemic as beginning in November, attacking first

the men, rapidly spreading throughout the population and required for a period of three

weeks.

During the epidemic there were sudden changes of temperature accompanied by thick fogs.
The disease was prevalent upon the Continent of Europe, prior to invading Britain. During the year frequent earthquakes were felt, volcanic eruptions were common. At the same time there was fleck disease among dogs and horses.

Generally, appeared suddenly, with reddening pain in the head, back, and limbs, accompanied by a feeling of chilliness. Sometimes sore throat. Nasal and intestinal disorders were frequent. Complained of. Cough was an almost invariable symptom with Coryza. In addition, hypochondria, cramps, sneeze, song, palpitation, and muscular aches.

These symptoms varied in severity, many being able to follow their employment, others being compelled to submit to confinement.

The attack generally terminated suddenly by either a critical part, or the evacuation of large quantities of urine, or by a critical evacuation of the contents of the bowels; this occurring within a few days of the onset.

Relapse true but uncommon, June especially in the children, and then inflammation of the lung, or pleurisy, were liable to develop.

The mortality was low, but the aged, children, otherwise debilitated, also young children, when attacked, suffered terribly. Prolonged debility after the attack was very common. Then appeared to be more frequently attacked than before.
No satisfactory theory was adduced as to the cause of the disease. Some considered it to be due to a peculiar state of the atmosphere, others attributing it to the weather, which hypothesis was untenable, owing to the fact that the disease prevailed under the most varying conditions of the atmosphere, as to climate, temperature, and moisture.

The theory of contagion was strongly opposed by Dr. Glass of Eichstätt in the latter part of 1729, when a similar epidemic raged. Two thousand persons were infected both in one night, and again he quoted from Plicatus that in the Autumn of 1887, all parts of Spain were attacked indiscriminately.

F. Mass of Birmingham found the disease to be particularly troublesome when attacking Negroes and women.

Obstinate constipation was observed by some to be a common symptom.

Much the same as that observed in former epidemics.

The course of the epidemic appears to have been from South to North, and from East to West.

Perhaps the most widely diffused of all recorded variations.

Commenced at sea between Malacca and Canton, appearing on board a ship sailing from the latter to the former, in September 1780, although it had not appeared at the time of sailing at Malacca, but then was raging in Canton; the symptoms there...
being similar to those observed in London in June 1782. It is also reported to have attacked the British army while it was besieging Reggio Parmense in November 1781. Further, a squadron sailing from Spithead on the 2nd of May 1782, to cruise without touching land between the Lizard and Brehat, was attacked about the 29th of May, and saving to the large number of the crew that were disabled, had to return to port during the 2nd week in June.

From Calton, the disease travelled westward through Russia, Denmark, and Holland to England, where it appeared in May; after ravaging England, it made its appearance in Scotland and Ireland. It passed in France in the months of June and July; in Italy in July and August; and in Portugal and Spain in August and September. It was afterwards said to have invaded America.

Curiously, though a Surgeon at Torrington in Devonshire and his family were seized with symptoms identical with those of influenza during March 1782, at the same time the disease became general in Torrington, but neighbouring towns and villages were not attacked until the following June.

In May until September it prevailed in London, but in the Observations of London College of Physicians made in 1783, the disease is reported to have appeared in Newcastle-on-Tyne in the latter end of April 1782, continuing thence through May and June.

In Edinburgh it was reported about the 20th of May...
Although strange to say, the inhabitants of
Glasgow were not attacked until the 9th or 10th of June, at which date Glasgow was
invaded. Cornwall was visited about the end
of May. From the above it is clear that in regard
the Fumbel Isles the disease did not follow
any very definite course.

Once begun the disease spread with alarming
rapidity, sparing few, chiefly children. Actually
at each place was about six weeks, and the
mortality was singularly low. Relapses were
by no means uncommon. Individuals engaged
in outdoor work did not appear more susceptible
than those not so engaged. Towns were attacked
earlier than neighbouring villages, and cities
in the latter than in isolated houses in the
neighbourhood.

The views held as to the manner of spreading
were varied, though the majority of observers
were in favour of the view that it was by person-contact.
In connection with this, however, it is interesting
to note that:

1. Those most exposed to the weather were the first
   to be attacked, observed by Dr. Craig.

2. Many suffered from the disorder without having
   had any communication with a diseased person.

3. Several escaped though in the kind of the disease

4. Whole families were seized at once.

5. Several cases appeared sometime before the
   disease became evident.
Again, in a letter written by Dr. Hamilton of London, to Dr. Letchworth, and read before the Medical Society of London on November the 27th, 1787, the writer narrates the case of a Surgeon of Ipswich, who, whilst on a visit to London, during the height of the disease, was attacked the evening of his return to Ipswich, at which time no cases had been detected. Shortly after his return, the disease became epidemic in Ipswich, the disease apparently having been introduced by him; Dr. Hamilton's opinion was that the disorder was due to a specific "influenza minor," a certain contagion. In this, however, Dr. Hay, of Chester, believes influenza to be contagion, and in support of his view, he cites the case of a Gentleman, suffering from influenza, who came from London to Chester, on the 24th of May, 1782, a lady into whose family he came, was taken with the complaint on the 26th of the same month, and from that date, the disease gradually assumed epidemic form in the town; he also observed that towns were attacked earlier than villages in the neighborhood. In reply to the objection that it is unusual for an infectious disorder, such as influenza, to spread in such facility as that observed in influenza, Dr. Hay, in his controversy, contends that the reason lay in the fact that many persons infected with influenza were able, from the mildness of the attack, to continue performing with their neighbors, thus spreading the disease far and wide; he
also points out the probable shrivelling of the period of incubation in the disease in this century, and also, that there is nothing in the appearance of a patient suffering from a mild attack of influenza, to prevent the uninfected from coming into contact with him, as is the case in such disorders as Small-pox.

In the above report of the Royal College of Physicians of London, "distressing pain and a sense of constriction in the forehead, temples, and sometimes in the whole face, accompanied with a sense of pressure in the cheek bones under the muscles" is described as "pathognomonic" of the disease. In addition, there were present fever, quick pulse, languor, loss of smell and taste, sensation of contusion about the pains within the chest. On the side, sometimes delirium, and not infrequently diarrhoea. Also there were seen nausea, cough, coughing in the eyes, hoarseness of voice, with a sensation of soreness throughout the trachea. Many patients presented copulation and chicken-pox like symptoms. The throat was frequently sore, with inflammation of the tonsils, and also, occasionally, inflammation of the fauces and larynx.

Inflammation of the lungs and pleura were frequently observed as sequelae, also, in some cases, when the acute symptoms had subsided, there was a marked tendency to diarrhoea. Haematuria of discharge from the ears with deafness were not infrequent.
It was further stated that there was a decided tendency for pregnant women to be attacked, either to abort, or to be prematurely confined, and then there was some danger from haemorrhage. Persons residing in low situations suffered more severely than those in higher altitudes. The mortality amongst pathological patients did not appear to rise.

The cataract, fever, debility, following and rapidity of onset appear to have been the most striking characteristics of the epidemic. The duration as a rule of the attack was brief and terminating generally by a critical issue.

The summer of 1781 was very dry, the winter following changeable; the spring of 1782 was floomy cold and damp with occasional fogs and peculiar storms; also an Epizooty of Hela.

For this it is recorded that insects, including the Boston sco type-graphocreas, were very destructive. Much the same as that occurred in the former epidemic. Antimony appears to have been a favourite remedy, and was generally prescribed early in the disease.

After the epidemic in 1782 there appears to have remained free from any widely diffused manifestation of Influenza for nearly twenty years, but the disease prevailed in America in 1789-90. It recurred during the Spring in England, the disease was preceded by a troublesome epidemic diarrhoea from South to North.
Persistence of North East winds, offensive fogs. Reports of sudden atmospheric changes. Striking effects of earthquakes. The mortality amongst cattle was excessive and there was much disease among cattle and domestic animals. The disease was prevalent sometime on the Continent before it appeared in England. Cities were attacked before neighboring villages.

Some remarkable instance of immunity are recorded.

Symptoms—

Azing (as in 1782), head aching, and intestinal disorders very pronounced. Sometime, dysentery. In some few cases instead of an acceleration of the pulse (as usually observed), there was a decided diminution in the rate per minute.

In the case of a boy of eighteen years of age whose pulse soon after the commencement of the attack, was only 40 in the minute. Delirium and the remission of phenomena were not uncommon.

Pregnant women suffered very severely. Generally aborting or being prematurely confined. Relapses were frequently met with.

Acalculia, hoarseness, cough, and measles were very prevalent; sometimes preceding, at others following the attack of influenza.

With reference to pulmonary Consumption, the general opinion was that influenza had a tendency to elicit any existing affection of that disease.

As to the Contagious Nature (or Morbific Influence) of that Disease.
In Dr. Cade of Shrewsbury, in the Medical and Physical Journal Vol. X p. 216 says, "The influenza appears to me to be infectious, and the contagion to operate in about 24 hours," and he adduces many facts in support of his belief, where individuals otherwise healthy coming from localities where there were no cases of the disease when brought into contact with infected persons took the disorder themselves. Many other authorities are quoted by Thompson holding the same view as to the contagious nature of the disease and that the cause was a specific "maleness morbi," readily communicable from one person to another.

Dr. Edgeworth in the Medical and Physical Journal Vol. X p. 302 mentions the instance of a parcel being the means of infecting a whole family. The individual who opened the parcel being the first one to be attacked.

On the other hand, there are instances recorded where individuals were attacked who had not, as far as could be ascertained, been in communication with the infected or their belongings.

Precautions were strongly recommended early in the attack. Many believing that by the means the disease was often cut short.

Colonel has by some practitioners employed as a cathartic, either composed with Rhubarb, or as a substitute. Others again prepared giving small doses of Colon with Autonomy with excellent results.
There was a considerable difference of opinion as to the advisability of performing tracheotomy. Many were condemnatory of the practice. Opium was contraindicated when there were any inflammatory symptoms present, but was useful in allaying the cough. While it was painful to many, it was recommended that the rooms occupied by patients should be cool and well ventilated. Liquors: Brandy, brandy, spirits, squills, and antimony were used as a soporific and astringent for the relief of local pain or dyspnoea.

Opinion expressed as to the value of Peruvian bark during convalescence or where the fever was intermittent, varied, some believing it to be harmful.

Balsam was forbidden as a rule but the juice of oranges was found very grateful to most people. Small doses of spirit of Digitate, combined with saline and astringent medicines were found to check the cough, to promote expectoration and to induce sleep. Nitre was a favourite remedy in many.

Mr. Hunter at Dumfries suggested a somewhat novel mode of treatment, namely, by the use of tobacco either by the mouth in the form of Virginia Rectangular, or as an injection. He cites two cases in which he found this treatment most effectual. Rest, diet, and manual measures, however, were enjoined.
There is nothing very remarkable in the records of the
visitation which appeared in England in June, following
very changeable weather. The previous year the disease was prevalent in
China.

The chief were severe pains in the head, loss of
appetite, and soreness behind the sternum.
Sydenham was prevalent during the epidemic and
continued after its decline, when Cholera
also followed.

Concurrently there was much disease amongst
the lower animals.

Commenced in April following bad weather
precipitated by intense cold.

The chief were great nervous disturbance and
slow convalescence.

In Paris, where nearly four-fifths of the inhabitants
were affected, the disease with many complications
such as Pneumonia and Rheumatism, fever, delirium,
Severe Neuralgia, and Rheumatism.

There was extensive concurrent disease amongst
horses.

The most approved plan was to administer
army at the onset and afterwards injections.
The second outbreak epidemic took place in 1836-7.
It appeared at Sydney (41° S.) in the second week of
October 1836, at Cape Town on the 1st of November
about which date it was reported from the town
of the Belts and soon afterwards in the North of South
Africa. The simultaneous appearance of this disease in
Canada
So distant from one another, and so different in climate, rath the tends to diminish the theory that weather is the cause of the disease.

The disease was first noticed in London about the 10th of January, 1837, and was still raging for about a fortnight, and ceased after six or seven weeks from its first appearance.

The weather, both preceding and during the prevalence of the epidemic, was very variable, in some places, such as Sunderland, there being excessive frost; in others, such as Worcester, there being frequent fogs, and the atmosphere, with much rain. In these places certain electric phenomena were observed, e.g. aurora borealis. Dr. Streeten, in the Transactions of the Provincial Medical Association, gives at some length, a report of the experience of medical practitioners in various parts of Great Britain, of the evidence in des consideration; certain questions relating to the matter were pointed out. And in the report, the results of the inquiry are, after carefully considered, that may be summed up as follows:

1. The disease began early in January, 1837, and extended about the beginning of March.

2. It was very widespread, seeming to attack large communities simultaneously.

3. Infants and young children were the only ones that appeared generally to escape; as to sex, there seems to have been no particular difference of susceptibility; those of a lymphatic or phlegmatic temperament seemed most susceptible.
Generally speaking, when children were attacked, they suffered less severely, though in the report it is stated that there were some notable exceptions. The statement: infants, very young children, as a rule became severely ill.

The mortality was greatest among the aged and the very young, but adults of middle age seem to have suffered most commonly.

The rate of mortality appears to have been about two per cent., being lowest in Northern districts, highest in the Western, though in the latter the disease was not nearly as prevalent as in other parts of Britain.

The fatal cases generally occurred in,
(a) the aged or infants,
(b) those of weakly constitution, or who, prior to the attack, had had pulmonary lesions (e.g. Chronic bronchitis or asthma), or disease of the circulatory organs, e.g. the heart.

So to the ordinary duration of the disease, it has generally found to be from about five days to a fortnight, though the subsequent debility generally continued for some considerable time longer.

Relapses sometimes occurred, but not usually, and it was found that the symptoms of a relapse were, generally, more severe than those of the primary attack.

Persons exposed to the influence of the weather were in fact found to be more susceptible than those
Confined to the house, although this was the
view taken by the majority of practitioners. It is
true there were some important dissentient persons
who believed that the disease was not so
common in those exposed to atmospheric
influences than in those not so exposed.

11. There was no proof (such was the general opinion)
that the disease was communicable
from one person to another; however, many
were inclined to believe that it was possible
for the disease to be so communicable.

12. Persons attacked by the epidemic, who all the
time were suffering from pulmonary disease,
generally suffered severely, and as a rule,
their pulmonary lesion was aggravated, usually
where the form of the lesion was phthisic or
bronchitis.

13. There appeared to be no circumstance that
appeared to exempt individuals from being
attacked, and further, the attack of the disease,
appeared, did not confer immunity from
another similar attack.

14. Symptoms. There was a remarkable majority
in the symptoms described: the disease beginning
with a feeling of chilliness, or in some cases a
distinct rigor, occasionally recurring at
intervals for two or three days, followed by fever,
the skin being hot and dry, the face flushed,
sometimes sundelirium at night, and always
great debility, cough; and depression of spirits.
Pain, severe in character, and usually of long duration, in the back was a most characteristic symptom, often being felt in the head, and the limbs as well.

The catarhal symptoms were marked, these being congestion of the eyes, sneezing, and an acrid discharge from the nose, also for three hours headache, cough, expectoration, dyspnea, with a sense of constriction.

Most seriously found was the headache, with a sense of weight to the symptoms, very seldom absent.

The most prominent symptom of all was cough, short and harassing. Troublesome (frequent), coming on occasionally, in paroxysms, and preventing the patient from getting sleep.

The expectoration at first was generally found to be thick mucus, afterwards mucopurulent, and at times bloody. Patients frequently complained of a sensation of soreness extending down behind the sternum.

Upon auscultation, somnorous and dulcet notes were generally heard over the upper half of the chest, and the back. Crescendol notes being, as a rule heard toward the bases posteriorly.

The pulse was usually found to be more rapid than in health. Small and soft, occasionally irregular, with nausea and vomiting, with tenderness over the region of the epigastrium, furred tongue, loss of
Appetite, and deranged condition of the bowels, generally being constipated, though in a few instances relaxed. Urine was as a rule scanty, and high coloured, "depriving a copious sediment."

Extreme prostration, with great depression of spirits, was a very marked symptom, generally accompanied by neuralgic or rheumatic pains in various parts of the body.

In some cases the patient's face was drawn to the right side, as if the patient was suffering from Pneumia.

The severity of the symptoms was found to vary greatly in different patients, in some the disease proving dangerous, and in others resembling an ordinary case of Cataract.

15. Amongst minimal symptoms may be mentioned:

(a) Severe affection of the central organs, e.g. meningitis, and accounted for by spread of the inflammation in the frontal sinuses.

(b) Inflammation in the mastoid cells.

(c) Paralysis, more or less extensive - in the age resembling an apoplectic seizure.

(d) Inflammation of the lungs - generally absent in neglected cases, or in those previously disposed to pulmonary disease.

(e) Cardiac signs, reported by some, often being greater and intermittent condition of the pulse.

(f) Severe abdominal pains, with violent diarrhoea, the stool sometimes containing blood.

(g) Leg diverse and Battalion neuralgic pain.
 TCHARS TO CERTAIN SETS OF NEURVS, E.G. THE INFRAorbital BRANCH OF THE FIFTH NEURV, OR THE INTERCOSTAL NEURVS. IN THE LATER CASE RESEMBLING THE PAIN OF PLEURITIS.

16. TREATMENT

A. In Mild Cases - a Caution, Employment of Various Remedies - the Use of Diaphoretics and Diuretics with Rest and Diet.

B. In severer cases - prompt and antidote medicines, and where there was Much Debility, sulphate of Quinine, with other mild tonics.

C. In relation to in complications - where active treatment was resorted to, e.g. Resection, Cerbera, blistering, purgatives, &c.

Bleeding, as a rule, was seldom resorted to in fact was generally condemned.

Colonel and Antimony were very favorite drugs, from either separately or in combination.

Dr. Grice of Dublin, in papers published in the London Medical Gazette, gives at some length his experience of the Irish Clinic.

The symptom that he lays special stress upon is dyspnoea, and he expresses the belief that influenza chiefly attacks the nervous system, and that the dyspnoea which he so frequently observed, was due to involvement of the eighth pair of nerves, and this reason for advancing this hypothesis was, that the pathological condition of the lungs was not sufficient to account for the dyspnoea observed.
During life...

Further, he gives at length the results of several post-mortem examinations, made by Dr. George Green of Dublin, who found that the lungs appeared the organs chiefly involved, and the changes therein found to be, in brief, as follows:

(a) Congestion of the mucous membranes of trachea and bronchi, sometimes of both lungs, at other times of only one lung - the tubes containing a varying quantity of bloody, fetid mucus.

(b) Parenchymatous tissue of the lungs darken'd in colour, specific gravity increased. Crystallizing freely when pressed between the fingers, and easily torn. The cut surface cut smooth roundly, upon pressure, bloody, fetid mucus exuding.

The posterior inferior sections of the organs vary dark in colour. Somewhat resembling smoking but without factor, this condition chiefly seen in the aged (hypostatic congestion?) in the young and robust - the lung substance, in addition to the bronchial mischief, was frequently found to present the second and third stages of pneumonia.

In some cases the lung was distinctly edematous, and there were also signs of recent pleurisy, but occasionally, considerable amount of fluid in the pleural cavities; this, however, rare.

In one case tubercle appeared to have been rapidly developed in both lungs, and in another two tubercular cavities were found.
In the aged the blood was found to be dark and fluid 
in both cavities of the heart, in the young and middle-
aged "fibrous concretions" were occasionally found in 
the cavities of the heart.

The opinion expressed by Grasso as to the nervous 
system being the one chiefly affected in the disease 
is also expressed by Dr. Blackston in his "Treatise 
upon Influenza" as it occurred at Birmingham, 
Dr. Blackston says "that Influenza is an affection 
of the nervous system, with its concomitant 
arrangements in the organs of digestion. Circulating 
fever, commonly known under the name of "nervous 
fever," accompanied throughout its whole course 
by irritation of the pulmonary serous membrane, 
which is frequently accompanied by congestion 
and even to inflammation."

As to the symptoms described by Grasso, they are 
almost identical with those given above.

In the treatment Grasso was adverse to bleeding, 
except in the earliest stage of the disorder, that is, 
within twenty-four hours of the onset of the 
symptoms; when later, he preferred applying 
hot or cold leeches to the right sternal notch, and 
then he found often gave great relief, at the same 
time much benefit was derived by the use of 
laudanum, amytal, and nitre. Liquors Hemimica 
Acetate, Opium, in the form of the Tinctura Camphora 
Completa, or Liquor Morphice Moruniae, with 
Spenacena, squills were his favourite medicaments. Towards the end of the disease he advised
the administration of stimulating depotments will

Blatation. 5: Graves as a rule desired; but found
the application of hot foment of the trachea and
chest frequently valuable.

5: Blatation in his remarks upon treatment
recommends diffusible stimulants, and tonic
injections during the early stage of the disease.
In the Statistical Report on the Health of the Navy
for the years 1887 - 1848 (11. B. 11. 7) are given some
interesting data showing the prevalence of the
disorder (influenza) on board English ships of war
sailing on the coasts of Spain and Portugal, and
in Indian waters.

During the period between 1888 and 1890 there
have been three epidemics of influenza recorded
in England. The most important of these
was in the winter of 1847-48, and its ravage
was far and wide.

The works of Dr. Parker and Dr. Peacocke give
some very valuable information respecting the
epidemic in question, and upon reading these
account, one is struck with the manner
similarity presented by the epidemic of the
one of 1887-88 described above, and to the
one that has so recently been recorded by
medical practitioners of the in England and
elsewhere, the symptoms were practically
identical, and there is nothing else worthy of
mention.
Pulmonary complications were not uncommon being either 1. Capillary Bronchitis. 2. Bronchitis supervening upon interstitial disease of the lungs. 3. Bronchitis with disease of the Heart or Aorta. 4. Pneumonia. The Physical signs of the above conditions were well marked. As a rule (as observed by Parker and by Peacock) the respirations were relatively more quickened than the pulse.

Peacock distinguished between the Capillary Bronchitis of Influenza and Pneumonia by the greater severity of the general symptoms, by the tendency of the former complication to pass into consolidation, and by the peculiar character of the cough, which is always paroxysmal without pain, caused by the character of the expectoration which consist of whitish, viscid sputum, cohering into irregular masses, and consists of the clear sputum with a little yellow. In this character, most colored and small air bubbles of Pneumonic expectation.

As to mortality, generally speaking, it was relatively low, but Peacock observed that the death rate was higher in the City grip than in those more elevated; he expressed the belief that the immortality of Influenza was owing, partly to the condition in which the disease found the patient, than by any inherent power of the notion itself.
And in the opinion he was supported by Dr. Parker. As to treatment, Peacock found blood letting to be of use in early stages. He however found benefit from calamine and copper imits of various kinds. He generally gave an ammonial internal at the commencement.

During convalescence, sulphate of zinc was found to be useful as a tonic, especially when the expectoration was thin; alkalies he found more useful when it was thick and purulent. This epidemic was very widely prevalent throughout the Continent of Europe, in Egypt, Algiers, and in the West Indies. Large numbers of people were attacked; the aged, young children, and those debilitated by disease or the worst suffering directly. The other epidemics took place in 1860-61, being prevalent throughout the Western and Eastern Hemisphere and in 1867-68 also widely diffused throughout the Eastern and Western Hemisphere.
Epidemic of 1889 - 90.

In studying this interesting disease, which can scarcely be said to have left us since now, I propose to consider,

1. History, progress, cause, and prevalence. With new views held as to probable mode of dissemination.

The epidemic was first noticed in Tomsk, an important commercial town of Central Siberia, distant about two thousand miles from St. Petersburg, about the 15th of October, 1889; almost at the same date it appeared in St. Petersburg, and the disease became epidemic about the latter part of that month. By the 15th of November it seems to have spread over nearly the whole of European Russia for it was reported from Riga and Rostov, in the Baltic provinces; Vilna on the confines of Poland; Kaluga and Moscow in Central Russia and Sebastopol on the Black Sea. It appeared in the Caucasus about November 17th. and was raging at Thessaloniki, 500 miles to the East, about the end of December. At this date the disease was decreasing in St. Petersburg.

Berlin was invaded towards the end of November, raging severely until December 23rd. When it began to decline. Meanwhile it spread rapidly throughout Central and Southern Germany, invading nearly every important town, from Hamburg in the North, to Munich in the South. Vienna was attacked about December 23rd, Prague December 27th.

Vienna was reached about December 12th, Belgrove
Bucharest, and Sofia, between the 16th and 24th of December.

At the same time the epidemic had spread westward, Brussels being invaded about December 12th, and Antwerp about December 16th.

Amsterdam was attacked about the middle of December, and the disease made its appearance in rapid succession through out the Dutch towns.

Copenhagen was visited Early in December, and it then began to decline about the 25th of that month.

Cases are reported to have been well born in Paris, as early as November 17th, but the disease did not assume epidemic form until about the 26th of the month.

Curiously, through the French provincial towns, excepting Monte Carlo, were but attacked to any serious extent.

Malaga, South of Spain, was visited on December 12th, making its appearance in the Indies about the 14th of the same month, one of the first victims being the boy King.

By December 29th the rest of the Spanish towns had been attacked.

Lisbon and Oporto were affected about the 21st of December.

In Italy the first cases were reported from Rome on December 15th, a few days later making its appearance in Brescia, and spreading all the important towns of Italy.

In London, the disease was recognized about December 25th, and during the following week it was reported from most of the provincial towns in Britain.
The disease did not limit its ravages to Europe. For cases were reported from New York and Boston about December 17th, and apparently became general throughout the United States by December 27th. Dr. Scholtz of Cape Town, South Africa, writing in the British Medical Journal of March 15th 1890 says "that the first cases of influenza appeared there early in January." Shortly after it became epidemic in London. About the same time cases were reported as occurring at Malta, and Mediterranean towns, also in Egypt. The disease reached India about the middle of March. Bombay, Poona, Belgaum, Sheerull, and other places, are recorded as having been attacked. In India it spread with its usual rapidity, and at the time of writing the inhabitants of Mandalay, in Burma, appear to be the latest victims, and suffering heavily. Recently cases of the disease have been reported from various towns upon the South and West Coast of Australia, and also at Dunedin in New Zealand. The course pursued by the epidemic has been by no means very definite. But generally speaking, it may be described as from North to South, and from East to West.

In all the towns and Countries attacked, the disease has been remarkable for its extreme severity, sparing few, and those chiefly infants and very aged people. With exception to the rule are not wanting. It is estimated by Dr. Bunt of St. Petersburg, that 650,000 people, or about three quarters of the estimated population...
of that city, were attacked; again, Professor Linder of Berlin, states that about one third of the inhabitants of Berlin suffered. Similar testimony is furnished as to the prevalence of the disease in Paris, and in Vienna. In London the number attacked was large, that many business houses, factories, etc., had to be closed, and the medical men were in such demand that the services of some residing in the province had to be sought.

Various views have been expressed as to the probable mode of dissemination of the disease. Some have thought that the "germs" of the complaint have been conveyed from place to place by means of the prevailing winds, a theory which appears untenable owing to the fact that there are many instances, where, without doubt, the disease has traveled in a direction absolutely contrary to the prevailing wind; others hold that infection is spread by contagion, but in accepting this theory a great objection is encountered, namely, the fact that the disease has made its appearance almost simultaneously, at places very remote from one another.

From personal observation one is inclined to accept generally, the theory of contagion. For as will be shown later on, the symptoms of the disease vary greatly as to severity, and those individuals suffering lightly, are generally able to mix with their fellow beings before they (the former) are entirely incapable of spreading the infection, and decided
Inconceivable that owing to the rapid means of transatlantic travel, large numbers of people may thus become infected in a comparatively short space of time, and all places remote from one another. Many observers again believe the disease to be a "tea miasma" or "contagion" one, and that it is spread by means of the atmosphere, and by direct contagion; as regards the atmosphere, it is but inconceivable that where the disorder appears to travel in a direction contrary to the prevailing wind, it may be due to the "materna fumus" being carried into some of the upper strata of the atmosphere, the direction of which may be contrary to that at the Earth's surface. The stratum carrying the "materna fumus" but distant from the Earth's surface until it meets with a current of air travelling in a true wind direction, the point of contact with the Earth being the spot where the disease reappears; by this means it is quite possible for the disease to travel with remarkable rapidity. Dr. Schultze of Cape Town in the article above mentioned says: "There can be no possible doubt that the introduction of the epidemic, by implantation from Europe was by means of the passenger boats, as well as by high steamers arriving here bearing a history of having had nearly all the working portion of the individuals down with "Influenza."" K. Thringel (Weener Rev.), Preface 1890, p. 1, 25, believes the disease to be an infectious disease...
of bacterial origin, he think it quite improbable, that the affection may be spread by direct-contagion, but that the majority of people appear to become infected by inhaling the germs of the disease in the atmosphere.

Liebk. [I. f. Monatsh. f. inn. Medic. 1890, p. 55] believes that apart from atmospheric influences, the disease may be spread from person to person.

Rennw. [Berl. Klin. Woch. 1890, no. 7, 16] at a recent meeting of the Berlin Verein für inn. Medizin expressed his opinion that influenza is an infectious disease, starting from some centre, frequently Russia, and spreading over the Continent, frequently crossing the ocean. Rennw. views were supported by Lynen, but they were opposed by Fürbringer.

Legden [Munich med. Wochenbl. 1890, no. 2, 30] from his experience of the epidemic concludes that the disease is pneumatic, rather than contagious.

Kernig, at a recent meeting of the Medical Society of St. Petersburg [Proc. med. Soc. 1889, no. 62], did not consider the disorder to be a contagion but rather pneumatic.

In the Practitioner, for April 1890 there appears an excellent article written by the firm of St. Sheridan & Co., upon the recent epidemic as spread by them among the work people of their Bond wool Co. of Westminster, the author strongly advocates the theory of contagion, in preference to the pneumatic one. In the factory above mentioned, the first advantage
Reported about the 25th of December, and about four days afterwards, the first batch of convalescents returned to work; this was immediately followed by an immense increase in the number of cases. Dr. Delahaye states that the greater the number of convalescents returning to work (until the disease was exhausted) the greater was the number attacked. He explains this on the theory that the convalescent returns to work before they were incapable of spreading the infection.

In addition, in the same paper, there is given the report of two cases. The one a lady who had escaped the disease, until she met with a billetman who had been a sufferer. Some ten days previously; within 24 hours of the meeting, the lady was seized with symptoms of genuine influenza, which ran its usual course. The second was the case of a little girl who met a companion, recently recovered from the disease. Within 24 hours, the little girl was affected in a similar manner.

Another curious fact commented on by Dr. Delahaye is, that, from the 11th - 18th of January, when the disease was at its height in London, he had the greatest difficulty in preventing the armies he was examining, from becoming loaded with bacilli.

In support of the theory of contagion is2 warrants an

Occasion Experience (The Spectator Gazette of March)

by B. H. Hoole of the Transatlantic Steamship "Saint

German" which sailed on December 2d 1859 for
St. Kazione for Vera Ching. All on board were well, for influenza had not then reached that part of France. On December 5th, the steamer called at Santander for passengers, and then received, amongst others, a man coming from Madrid, where the epidemic was raging. The passengers, who were well when admitted on board, fell sick the next day. Soon the contagion spread, for out of 496 passengers, 260 fell ill. The disease, the doctor being amongst the first victims.

In the British Medical Journal for February 1st, 1890, there appears a paper by Dr. Robertson and Elliot upon the epidemic as seen in the Morningide Lunatic Asylum, Edinburgh; scattered cases were here met with during the second week of December, 1899. The epidemic seems to have been assumed about the end of the latter month, reaching a climax heralded by a practically disappearing by January 24th, 1890. Out of a population of 998 persons, 160 were attacked, a percentage of 14.1. And of these 73 were males and 67 females.

As to contagion, the authors of the above paper, not committing themselves, they think however, that if the disease is contagious, it is only to a very slight extent; their further opinion is that the disorder is a specific fever, having a definite course and duration, and afflicting the whole organism.

Meteorological or other phenomena observed preceding or coinciding with the epidemic.
### Public Health Statistics relating to Twenty-eight Large English Towns, for the Year 1889.

#### Towns:

<table>
<thead>
<tr>
<th>Towns</th>
<th>Estimated Population (1881)</th>
<th>Births</th>
<th>Deaths</th>
<th>Annual Death Rate per 1,000 Living</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>4,261,278</td>
<td>31,487</td>
<td>2,770</td>
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<tr>
<td>Brighton</td>
<td>1,157,965</td>
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<td>Cardiff</td>
<td>119,713</td>
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<td>138</td>
<td>2.0</td>
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#### Births and Deaths:

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<tr>
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<th>Annual Death Rate per 1,000 Living</th>
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#### Annual Death Rate per 1,000 Living:

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<tr>
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<td>2.4</td>
</tr>
<tr>
<td>Cardiff</td>
<td>2.0</td>
</tr>
</tbody>
</table>
There is nothing very remarkable to be noticed in the weather during the year 1847: the Spring of the year was cold, and in various places snowstorms were experienced as late as March; the following Summer, was on the whole bright and dry. Though the Autumn, in many parts, was mild and wholesome, with a considerable amount of rain-fall. In London the first three weeks of November, had a temperature above the mean; the last week of the month, and the first two weeks of December showed a temperature below the mean; the last two weeks of December had a temperature above the mean; the first week of January had a temperature above the mean; the last three weeks of January and the first week of February. When the Epidemic was at its height; had a temperature much above the mean, while since that time to the middle of March, the temperature was below the mean.

Since the Epidemic of 1847 it has been observed that the Epidemic generally follows or is prevalent during unusually mild weather, moreover that, contrary to the rule that the mortality from diseases of the respiratory organs, is in the inverse ratio to the mean temperature, the mortality in those towns where the Epidemic has been rife, has been enormously raised, the increased mortality is not attributable to Influenza, but chiefly, to disease of the respiratory apparatus (see Cables). The year, on the whole, has been a very healthy one, both in Britain, and on the Continent of Europe.
### Comparative Table—Showing the Estimated Population, Density (Persons to an Acre) Birth-rate, Death-rate, Zymotic-rate, and Infantile Death-rate of the Eleven Largest Towns of England and Wales (those having a Population of over 200,000), for the Year 1889.

*From the Registrar General's Return.*

<table>
<thead>
<tr>
<th>Town</th>
<th>Estimated Population to Middle of 1889</th>
<th>Density</th>
<th>Birth-rate</th>
<th>Death-rate</th>
<th>Zymotic-rate</th>
<th>Deaths of Infants to 1000 Births</th>
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<td>Manchester</td>
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<td>22:1</td>
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<td>29:8</td>
<td>19:2</td>
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<tr>
<td>Salford</td>
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<td>30:0</td>
<td>20:5</td>
<td>4:57</td>
<td>181</td>
</tr>
<tr>
<td>Bristol</td>
<td>229,361</td>
<td>49:5</td>
<td>29:3</td>
<td>17:6</td>
<td>2:13</td>
<td>146</td>
</tr>
<tr>
<td>Hull</td>
<td>208,017</td>
<td>28:3</td>
<td>32:6</td>
<td>20:3</td>
<td>3:06</td>
<td>184</td>
</tr>
</tbody>
</table>
In Pennsylvania however, there has raged since the autumn, a very severe epidemic of Asiatic Cholera,
and about the same time there was an unusual epidemic of pneumonia in Leeds.
The average mortality of the 28 great towns of England, having an aggregate population of
9,555,468 amounted during the year 1889 to 1928.
The accompanying table is taken from the report
of the Medical Officer of Health for Boston for 1889.
From various quarters, a malady resembling
Influenza, has been reported, as occurring amongst
the lower animals, especially horses. The case
entered in London about the beginning of October
last, and one firm alone, had 100 horses attacked
with it.
Thunderstorms, and other electrical phenomena,
were comparatively rare last year.

Nature of the Disease, its Etiology and Pathology.
The disease always occurs as an epidemic. It
is remarkable for the rapidity with which it
travels from place to place, and for the enormous
number of people it attacks. Moreover, it occurs
in all climates, presenting similar peculiarity
and symptoms. It attaches the white man and
the colored man, in exactly the same fashion,
and appears to have no regard for age or sex.
Though it probably occurs frequently attaches
adults, between the ages of 30 and 40 years, than
those younger or older. It prevails for about six weeks.
The etiology of the disease is at present obscure. In my clumsy and formerly, various conditions were supposed to give rise to the disorder. Chief among these was the weather, also such meteorological phenomena as thunderstorms, volcanic eruptions, comets, and the like; some believed that the disease was produced by vegetable forms borne on the wings of the wind. Others, inspired, on the other hand, that influenza resulted from the presence of ozone in the atmosphere.

Professor Gammeas of Glasgow, in a lecture recently delivered, considers the view that the present epidemic was due, to some extent, to unusual stillness of the atmosphere, and that the decline of the epidemic was coincident with the replacement of stagnation by movement.

Hinds in his Handbook points out the belief shared by some, that influenza is simply "an evolution from bronchial catarrh." The disease, nothing else than a "catarrh of heightened vitality, prevailing as an "epidemic." And he further remarks that "currents and unprejudiced investigators, have, at one time or another, failed to remark how numerous the theory is, how independent and influential the state of the weather. All the most recent investigations point to the probability that the disease is the direct result of the introduction into the organism, of a "specific virus," probably, some form of bacteria, capable of residing, both in the atmosphere, and within..."
the bodies of three animals cattle the attacked.

Dr. Philip Thompson in his "Annals of Influenza"
finds some most suggestive hints as to the cause
of the malady. While, when viewed in the light of modern
bacteriological science, are little less than prophetic.
He invited special attention to the distinct
condition of vegetable and animal life, repeatedly
recorded during influenza, years. Peculiar seasons
are shown to recur in cycles; these cycles are
associated with recurring developments in the
lower forms of life, and with consequent altered
conditions of the health of man. Is it unreasonable
to inquire that some fluctuations in the health
of man may have reference to stages in the condition
of some of the deformed, and form inurable classes
of the lower Creation?

At the present time elaborate investigations
are being carried on, in various laboratories,
with a view to discover the actual microbes
which is believed to be the direct cause of the
disease in question. Dr. Maximilian Dollas of Vienna claims to have
discovered the bacillus of influenza, he says it
very closely resembles the Lüders bacillus
of pneumonia, and was found in large numbers
at the same time he admits finding similar
other bacteria. Max Dollas and Dufour
Jesu.
In this, he is aware that the bacillus he describes, which he says is identical with Riedel's meningococcus bacillus, has been found in formal solution. He also found this same bacillus in the urine from a case of acute pyelitis (pyelitis) and has, on one occasion in a specimen of Verneuille, drank its water. Lastly, two rabbits were inoculated by him with cultures of the bacillus. In one, there was no result. The other died of septicemia, on the fifth day. The above result can hardly be considered as satisfactory in proving that the bacillus is the one producing influenza.

Professor Reichel also claims to have found this capsule bacillus in the blood of two acute cases of the disease with negative results. In the bronchial exudate, obtained from 21 living subjects, he found constantly, and in large numbers, the capsule bacillus in the plasma, and in the pus, and in the blood. The capsule bacillus concludes that meningococcus is simply this complication of influenza, that the meningococcus meningococcus is the cause of the disease, and that this remains as yet indiscernible.

Professor Klebs of Vienna has found, during the febrile stage of influenza, in the blood, either free in the plasma, or in the plasma, or contained within the red blood corpuscles, large numbers...
of "Flagellate Protogoa", varying in size, activity, mobility, and spherical. They are easily stained by methylene blue, and in such stained blood preparations, it can be seen that a large portion of the flagellate organisms are contained within the red blood corpuscles, generally one red blood corpuscle containing two, three, five, rarely one single organism. Cultivation and experiments with these protoga have not been made. These flagellate protoga are commonly found in the blood of individuals suffering from malaria or ague, and their presence in influenza would lead one to expect that the temperature in the latter, like ague, presents intermittent and however has not been the experience of many observers. Fröntzel, who carefully investigated the temperature curve in fifty uncomplicated cases of influenza, failed entirely to discover any intermediate.

Professor Rübert of Borne, believes that the "Streptococcus pyogenes" is the primary cause of influenza, since in all, and every one of the cases of pneumonia following influenza, which he examined, both in the opinion of the living and in the body after death, he found this bacillus and nowhere else.

In his cases of pneumonia after influenza, Professor Fröntzel of Borne, discovered the "Streptococcus pyogenes" and he termed them "Streptococcus pneumoniae."
In the Medical Record, New York, February 15th, 190...

are some observations by Ponderon, who discourse in the symptom of two, out of three cases of bronchitis associated with influenza, in the large number, the Streptococcus pyogenes. In the third case, however, he found the Diplococcus pneumoniae. In six cases of pneumonia, following influenza, the Diplococcus pneumoniae was found in four, the Streptococcus pyogenes and Staphylococcus pyogenes aureus in the fifth, and in the sixth case, which proved fatal, the Diplococcus pneumoniae was present in pure culture.

Babes (Centrale f. Botel. and Parasit. Viertel.) examined the secretions from the nasal cavity, and frontal sinuses. In several cases of acute influenza, he succeeded in isolating the Staphylococcus aureus and album: Bacillus of Friedlander, and other varieties of bacteria. Notably, two species of bacilli: the Culture of both of which produced pneumonia, with fatal results. When injected into 20 cts.

In some cases of fatal pneumonia after influenza, Babes isolated various forms of Streptococci: the Diplococcus pneumoniae of Friedlander, the Staphylococcus aureus, and various other species of bacteria acting pathogenically on 70 cts.

In 87 examinations of the secretions of the nasal cavity, Besser (Ziegler, Beiträge 11, 4) of individuals
The head nurse had influenza, or its complication, found frequently the "diphlococcus pneumoniae," the "staphylococcus pyogenes aureus;" but only, on two occasions, the bacillus of Frei, Lander, and Servier, the "staphylococcus pyogenes."

The bronchial secretion, was examined in various cases by Servier, in 2 cases of phthisis the "staphylococcus pyogenes" was found: in two cases of scarletina, a similar through not an identical bacillus, was isolated. The "diphlococcus pneumoniae" was found in one case each of pneumonia of the cervical vertebra, of tuberculous of the pelvis, and of otic focus. The "staphylococcus pyogenes aureus" in one case each of tuberculous Carcinoma uteri, and gangrene of cul-de-sac.

Vaillant (Le Monde Médical January 24, 1898) presents the following resume of the results of his bacteriological studies on influenza:

1. In fatal cases a "staphylococcus" was found in the blood, spleen, lung, or liquid effusions. In some cases the bacillus only was found, sometimes a staphylococcus being present until in the fourth case.

2. In emphysema, following influenza, the "staphylococcus" only was found.

3. In small cases of influenza, the same "staphylococcus" was found in the secretions (bronchial nasal).

Hence Vaillant is inclined to believe, that the organism is the cause of the disease under consideration.
After a most careful study of the recent bacteriological researches, in connection with
the subject, one is forced to the conclusion
that up till the present time the virus actually
proven to be the cause of Influenza, has not yet
been brought to light.

As to post-mortem appearances, Ribbert of
Bonn, made eight autopsies—two incomplete.
Six complications with pneumonia; in the latter,
the appearance of the cut surface of the lung
differed from that seen in ordinary, chronic
pneumonia. In that, it was smooth instead of
granular, the exudate soft, and very little visible
but with little fibrin. In three instance the
infiltration has "lobar," and in three "lobular."
There was marked congestion of the mucosa of
the trachea, bronchi, and bronchioles due to cellular
infiltration, and congestion of the blood vessels.
Fibrin was soft andMaltese. In all cases the
Kidneys exhibit decided "cloudy swelling"
of the glomeruli in one case, and "fatty
Degeneration" in another.

At the Bristol General Hospital, a post-mortem
examination was made in one case of Influenza.
The patient had been ill only three days, and
the disease was complicated with acute bronchitis
which caused death. The autopsy reveals
fistula beyond that usually seen in cases of
acute bronchitis. The patient in question
has had former attacks of bronchitis.

4. **Symptoms.** Usual and unusual with diagnosis.

The disease generally commences with a short incubation stage, varying from a few hours to six or seven days. As a rule about 24 hours. During this period, a dull, achy complaint is made, beyond laziness and irritability; this is succeeded by more or less marked chilliness or rigor, followed almost immediately by severe frontal headache, pains in the eye, back, and limbs, with or without cough, injection of the face, and a sense of ten amounting to nausea. The sense of chilliness gives place within a short time to burning heat, the thermometer registering 102° to 104° (Fahr), but infrequently being elevated still further. At this stage the patient generally complains of an uncomfortable sensation in the forehead extending down behind the eyes, as though the dura mater membrane were stretched. He is troubled with a short, hacking cough, with a little mucus accompanying. The cough, but infrequently, is paroxysmal, and most troublesome at night; when the patient is in the recumbent posture. The skin is hot and dry, the tongue moist, and coated with a whitish fur; the bowels generally constipated, though usually easily acted upon by enemata. The urine is scanty, and high colored, generally loaded with urates. Sometimes it is found to be albuminous. In case cases at this
Stage, delirium occurs; these symptoms continue for about 24 hours, and then the temperature generally suddenly falls, profuse sweating takes place, there is a virtual evacuation of the contents of the bowels, expectoration becomes more free, and diarrhea, and the patient is relieved. The pulse during the above stage ranges from 100 to 140 per min., and, as a rule, is soft and easily compressible; when the fever abates, falling to 70 per min. or under, and frequently being intermittent.

The subsequent debility is very marked, and great mental depression is complained of; in addition, the cough proves to be very persistent, and often distressing, and convalescence is generally slow.

During the stage of involution, insomnia, and Jewish stiffness, are often uncommonly observed. Rathenau (Wiener Med. Presse 1890 Nov. 25) believes that this influenza poison may act upon different organs, thereby occasioning different symptoms in different cases. First, it forms generally present, but in varying degree, and next in importance, he places affections of the respiratory apparatus, followed by, disorders of the nervous system, e.g. headache, neuralgia, insomnia, and muscular pains. He considers influenza presents a striking resemblance to other infectious disorders, for instance, after such affection
There are often evidences of motor, or sensory disturbances, or paralyses, and he has seen cases of influenza followed by neuralgias, especially trigeminal. Again, he has noted, that in a certain proportion of cases, the digestive tract has been the one attacked, with loss of appetite, vomiting, and diarrhea. He has also noted these symptoms, i.e., as the fever attacks, due to the direct action in his opinion, of the influenza 'toxin,' on the system, or organs, or on the nerves of the living themselves.

Verthagel does not believe that influenza directly causes 'causative pneumonia' so frequently seen as a complication, but that it may tend to produce pneumonia by 'frail' causing a respiratory catarrh, which forms a suitable stimulus for the development of the pneumonic bacilli. Potain (L'Union Medecinale Dec 21st 1878) defines 'causative' as being a febrile epidemic in nature, characterized by a respiratory catarrh, and often by a 'productive' one as well, and producing several phenomena and nervous troubles out of all proportion to the real gravity of the affection. The temperature, he generally found, rose 'gradually' to 104° Fahr. in some cases, 'gradually,' in others, he has observed a 'remittent' type.

In this, he has occasionally witnessed an eruption or scarlatiniform, hepatic, or antecarinal, eruption upon the skin.
Liebreich (Monatsbl. 1890, p. 55) states violence of onset as a most characteristic symptom of the disease. He further states that the course of the symptoms differs from what is usually known as influenza; the first symptom generally being chilliness, followed by a catarrh of the nasal, pharyngeal, and bronchial mucous membranes, but varying in intensity. He has been struck by the marked Schaunot following the acute stage, being out of all proportion to the degree of fever.

Reynard (Berlin Klin. Woch. 1890 p. 16) states that the disease is induced in either by severe nervous or by malarial or respiratory symptoms. He found the cases with nervous symptoms generally ran the most rapid course, next those with catarrhal symptoms. While the longest suffer, were patients whose digestive systems were attacked.

Fatal cases he found were due to complication, especially, catarrhal and conjunctival symptoms; also affection of the throat and ear. Physically patients, if attacked, he asserts, generally die of the primary disease.

In some cases he notes severe disturbance of the digestive tract, with fever, and symptoms resembling typhoid fever; in other cases, he observed inflammation of the middle ear due to extension of inflammation from the throat.
Farbinger, in discussing this subject, recognizes the three varieties of the disorder viz. 1. Hemorrhagic 2. Respiratory 3. Gastro-intestinal. He further believes it is often accompanied by an "abortion broncho-pneumonia," as shown by the presence of blood in the sputum.

Lowenstein states releases in persons exposing themselves to the weather too soon, and similar observations have been made by M. Loescher (Annalen Med. Wochenschr. 1890 No 2. 80) accepts these three forms as described by Renzler.

He states the sudden development of the symptoms, both or without, rigor, and followed by fever. From this, he has noted certain symptoms, and occasionally, injection of the conjunctiva. He has found the temperature to reach 104° Fahr., and usually lasting two or three days, then disappearing rather by crisis or dysuria. Marked prostration and slow convalescence are characteristic.

He has been various skin eruptions, e.g. herpes, urticaria, erythema, etc. Anaemia he found to be a marked symptom, and he occasionally observed infra-orbital neuralgia, and forward in some instances, cerebral symptoms, such as coma, and stiffness of the neck. He doubts whether, of meningitis, can be attributed to influenza.

He has not found his pathological cases suffer more than other patients.
At a recent meeting of the Medical Society of St. Petersburg, there was an interesting discussion reported in the "Wien. Med. Presse" No. 52, 1859.

Georgi described the three forms of nervous ability and specific. He found the duration of the disease to be 6-9 months, or three, days, and he met with some abortive cases in which the symptoms were very slight. Occasionally, what appeared to be a relapse, was seen, but Georgi inclined to the view that in reality, this was an exacerbation, generally lasting from the fifth to the seventh day of the disease, and in patients who had not sufficiently protected themselves during convalescence.

Some indubitable cases were met with in which the cataleptic symptoms were practically absent.

Herrig described a case in which there were distinct muscular symptoms.

Fratzer (Centralblatt f. Klin. Med. 1870 K 2, 28) has made careful observations in uncomplicated cases, no antipyrin being used, while administering and these in severe cases. In one instance, the temperature reached 105.0° Fahr., and in 8 days, the temperature exceeded 104° Fahr.; very few failed to reach 102.2° Fahr. The duration of the febrile period, he found to vary from 6 weeks. In several, the average was three or four days, seldom it exceeds five days, and in only
Two out of fifty cases studied, did not last longer than one week. Sometimes, the temperature reached its maximum in 24 hours, and in others some gradual, showing, remission, followed by a slight remission, and this again by a second rapid rise to the maximum.

The remission usually continues for a short time, and then falls slowly,gradually, showing an evening exacerbation, and mortarip remission, or rapidly, down to normal, or subnormal. Generally, the former was observed by the author. He notes what he believed to be the genuine case of relapse.

In the Edinburgh Lunatic Asylum, Dr. Robertson and others observed considerable variation in the symptoms. Frontal headache, with giddiness, and pains in the lumbar region, resembling lumbago, accompanied by, rheumatic or muscular pains. In many other parts, especially the legs, were almost invariably seen. Some respiratory catarrh was found to accompany the above symptoms, with slight cough, Coryza, and exudation of the eyes. Running from the eyes, and nose, as well as sneezing, though often seen, were not invariably accompanied.

The temperature at the onset generally exceeded 100° Fahr.
The stiffness, and headache, first complained of, generally disappeared within 24 hours, and the febrile symptoms, as a rule, passed away in about three days.

Great mental depression, and physical disability, were characteristic of the disease.

As to the Alimentary System — loss of appetite, nausea, vomiting (frequently persisting for two or three days, and producing much exhaustion), constipation, in a few instances, diarrhea, the stools sometimes containing blood, were the chief symptoms observed. The physical signs upon listening over the lungs were generally those of acute bronchitis. Several of these cases being complicated with pleurisy and pneumonia.

In the Acute form there were few deaths, which, in each case was due to Pulmonary complications, chiefly, pneumonia.

A complication, but not frequently observed, was a "dry pneumonia," giving rise to serious symptom. In several cases there was noticed, but in three cases, there was higher labile. In two cases, there was acute catarrhal nephritis. Relapse occurred in 13 cases; generally, the second attack was more severe than the primary one, at almost invariably complicated with bronchitis or pneumonia, and in many cases with diarrhoea. A relapse was generally found to be due to injudicious exposure to cold, and occurred within
24 hours of the exposure to cold.

At a meeting of the Edinburgh Medical Aerogastiric Society, held on March 5th last, Dr. Brakelridge introduced the subject. He obtained cases as early as October 1889, but the epidemic did not attain its maximum until January. His experience extended over 200 cases in private practice, but he had practically done in hospital practice.

As to symptoms — he was struck by the complete absence of Convulsions in his cases, by the occurrence of a peculiar faintness, of retching, profuse, with accompanying headaches; by the absence of any characteristic rash, though constitutional induration and hepatic emphysema were seen in many instances and by the frequent occurrence, often during convulsions, of neuralgia, and hyperesthesia. Dr. Brakelridge attached considerable importance to the fact that in a number of cases there seemed to be a distinct initial fever lasting for 24-48 hours. Which abated, only to be succeeded, after a short interval, by the symptoms of the disease, which symptom lasted for a varying length of time.

The period of convalescence showed marked variation in some patients, recurring soon, then being recurved for a long time. Females he found specially liable to be attacked about the menstural period, this has been noted by others in some cases he had met with paralytic of the bladder following influenza.
Relapses, he had occasionally met with, but how terminated fatally. He laid special stress upon the nervous element in the disease, and thought the explanation, many of the symptoms observed.

Diagnosis - During the prevalence of an epidemic of Influenza, the only point to be mentioned in regard to diagnosis is, the risk of misinterpreting the early stage of other febrile complaints e.g., Intense fever, or the Exanthemata.

If epidemic cases occur, and my belief is that such is the case, then it is a matter of some difficulty to distinguish them from cases of ordinary catarrh, the main point of difference being, that in the latter the subsequent debility is not nearly so marked as in the case of the former.

Many observers have noted the similarity between Influenza and Dengue, a retired Surgeon-General of the Indian Army, relates to me the occurrence of an epidemic in India, about forty years ago, very closely resembling the recent one, but then it was designated "Dengue." And its special features were, high fever, Thrombatic-like pains in various parts of the body, frequent relapses, and the prolonged Convalescence, in some instances one year. Happening, before the patient had recovered his usual health.

Seiden finds many points of similarity between Influenza and Dengue, and the same may be...
Said of Prowet.

Lennard in the "Revue Medico-Pharmaceutique" has had ample opportunity of studying both diseases and gives a series of differential symptoms by:

### Differential Symptoms

<table>
<thead>
<tr>
<th>Disease</th>
<th>Localisation</th>
<th>Incubation</th>
<th>Duration</th>
<th>Thread</th>
<th>Commencement of Disease</th>
<th>Fever</th>
<th>Symptoms</th>
<th>Eruption</th>
<th>Consequence</th>
<th>Progress</th>
<th>Attending Animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>All countries</td>
<td>3-5 months</td>
<td>1½ months</td>
<td>Rapidly, attacking large districts simultaneously</td>
<td>Generally sudden</td>
<td>Fainting in height</td>
<td>The Same</td>
<td>Always attacks</td>
<td>Common</td>
<td>May be absent</td>
<td>Rare-irregular</td>
</tr>
<tr>
<td>Dengue</td>
<td>All countries</td>
<td>3-5 months</td>
<td>1½ months</td>
<td>Slowly, from small febrile</td>
<td>Seldom attacked</td>
<td>Fever</td>
<td>Headache</td>
<td>Always, beginning in the face, descending</td>
<td>Rare-inconstant</td>
<td>Usually rapid</td>
<td>Rare-inconstant</td>
</tr>
</tbody>
</table>

### Complications

- Common: Renal symptoms
- Rare: Erythematous/eczematous desquamation

### Convalescence

- Pain of heart-lungotics
- Common: Bronchial cough
- Usually, rapid

### Progress

- Always favorable
- May occur in malnutrition
- Rare

Influenza and Dengue have recently been observed together in Constantinople, where the two diseases have been found to be markedly different.
Some observers have endeavored to show a relation

ship between Influenza and other epidemic diseases, e.g. Cholera, Smallpox, Measles, etc.; though these
diseases have on former occasions been seen to precede, accompany, or follow an epidemic of
Influenza, still, there does not seem to be any reasonable grounds to suppose that there is any
relationship between these diseases. For instance
Cholera, which has been raging among the natives
and is still prevalent in the interior, occurred
coincidentally with Influenza, but the latter was
epidemic some considerable time after the former
(Cholera) began, and ended some time prior to
the latter; this appears to point to the two
diseases being quite independent, and if one another,
and occurring together simply as a matter of
Coincidence.

**Sequela, or Complication, Mortality**

The Sequela, and Complications, of Influenza are
important, because the former are in many cases
very singular, and both, as a rule, common especially
where the patient has been greatly exposed to cold, and the like.

The most common Complications of this disease
are connected with the respiratory apparatus.

Coryza, bronchitis, pneumonia, and pleurisy, are very

frequently dealt with, and in a large number of
cases, cause a fatal termination.
At a meeting of the "Imperial Royal Society of Physicians" held in Vienna, and reported in the British Medical Journal of March 15th, 1890. Professor Kahler said he had met with three cases of pulmonary abscess, and also cases of pleurisy, following influenza. The disease in each case proved fatal.

Proceedings (Le Monde Médical. January 29, 1890)

Speaking of the pneumonitis of influenza, Professor Kahler said he believed it to be a pneumonitis independent of influenza, but that it is one of the manifestations of the latter disease. He pointed out that in his cases observed by him, the signs in those cases described by him to be the same as those seen in ordinary acute pneumonia, while the expectation was not met, but revealed that of bronchitis. Moreover, the course was that seen in bronchopneumonia.

Dr. Braemridge of Edinburgh drew attention to a peculiar form of pneumonitis with accompanying hemoptysis, which he had seen in some cases. The commonest complications described by Liebig of Berlin was bronchial catarrh and at times. During the latter half of the epidemic in Berlin, he observed cases of a peculiar variety of pneumonitis. Where the hemoptysis could be made out, but the presence of a congestion of the organ; no dullness on percussion, and often no rales. Among these, the author believed there were cases of bronchial pneumonia. Revers observed cases of catarrhal and of emphysema.
Pneumonia in the Chántel Hospital of Berlin. Furthmger observed the disease (Influenza) often to be accompanied with an abortive broncho-pneumonia and shown by the presence of blood in the sputum. Pericarditis has been occasionally observed usually of the dry form.

Suffusions of the faucets and submaxillary glands. Suffumative tonsillitis, laryngeal diarrhoea, and other symptoms, resembling typhus fever, with discharge of blood from the bowel, have occasionally been met with.

Erythema, haematuria, due to acute catarrhal nephritis and dysuria are sometimes observed as complications.

Anular Complications are very common to.

Atkin at a recent meeting of the Sheffield Medical Clinical and Surgical Society, read a paper on the subject - Deafness, and the effusion of blood-stained lymph, into the tympanic cavity, were observed.

Professor Gries of Vienna, met with alarming, and subsequent to the epidemic, numerous cases of suppurative inflammation of the middle ear, such as is seen after scarlet-fever, and sometimes in pneumonia. As a rule the ears were impure.

Great hyperemia of the surrounding parts were seen at the outset, and diffuse extravasation of blood were observed on the membrane tympani. In six cases, he had to amputate the ear.
And in one, the soft parts had to be firmly incised.
Professor Politzer observed eighteen cases of suppuration
within the middle ear, with abscess in the mastoid
process, as a result of influenza.

Paroxysmal Complications have been described by
Dr. Galeswore, in the "Recueil d' Ophthalmologie" for February; he has met with two cases.

(1) Conjunctivitis with lacrimation, and photophobia,
also blepharitis. The vessels of the sclerotic being
distended. Pupils acting perfectly. The author
believes these symptoms to be due to a reversion
of the fifth pulse.

(2) Superficial, but extensive, ulceration of the
Cornea, with complete anesthesia of the
ulcerated area and hyperesthesia of the
adjacent corneal tissue. Probably due to
some abnormal condition of innervation.

Dr. Bergemann, had seen one case of paresis of
accommodation, and ten cases of optic atrophy,
the result of retro-bulbar neuritis, following
influenza.

Professor Jacobs met with some cases of paresis
of "Lenon's Capsule," and this complication was
very interesting owing to its rarity.

Among the sequelæ - nervous affections - held
a prominent position e.g. some cases of
depression, great mental depression, sometimes
amounting to melancholia, and occasionally
fit of acute mania.
At the Société Médicale des Hôpitaux, Dr. Seffray remarked that he had met with a case of Neuralgia, after Influenza. Two patients presented symptoms consistent with Cervico-cerebral Neuralgia.

In the British Medical Journal, of March 29th, is reported a case of Post-partum Tetanus, following Influenza, and occurring in a young healthy looking female aged 16 years. The symptoms appeared about a week after Influenza, and she died within seven days of the onset of tetanus, no other cause could be assigned to the latter.

Dr. Inglis of Malta (Brit. med. Journ. April 12) first with cases of influenza, following Influenza. One case, that of a woman, aged 32 years, married. Who presented Cataleptic symptoms, about four days after being attacked with Influenza, and when all the acute symptoms of the latter had passed away. She was then seen perfectly healthy.

Case of Auris Fecundus, as cedentis ignobilis, inflammation of the Hypoglossal, and meningeal have been described as sequelae.

Dr. Sandby of Birmingham (Brit. med. Journ. May 16th, 190) reports two cases of Diabetes Mellitus, following Influenza.

Case 1. A delicate girl aged 22 years, had an attack of Influenza about Xmas 89. Shortly afterwards, she developed the symptoms of diabetes, passing 100 ounces of urine daily, containing about 60%
of sages; the symptoms improved under treatment.

Case II. A glass blower, aged 30 years, who had a severe attack of influenza at the end of January, and very shortly afterwards, he began to pass large quantities of urine (200 ounces daily) containing 7½ % of sugar.

Mr. Burghard, Assistant Surgeon to King's College College Hospital, London, reports four cases of phlebitis following influenza:

Case I. Britten-Caves, aged 37. Seen in January with a tender swelling in his left groin. At fortnight previously, he had had influenza severely, leaving him much debilitated. Four days later he had pain, especially bad on coughing or straining. In his left groin, and in 24 hours, the leg had become much swollen, and the swelling, for which he sought advice, was noticed.

Examination revealed a phlebitis and thrombosis of about the upper third of the left femoral vein with enlargement of the lymphatic glands and edema of the whole limb.

Case III. King familiar to one another - patients labourers, aged respectively 32 and 34 years. First seen at the end of April, both had the left lower limb much swollen, following influenza, which attacked them, three months beforehand. The symptoms complained of were first noticed about four days after the attack of influenza.

Case IV. Clergyman aged 56 years, suffering from
Adenoma of the left leg. Seen in April. This dates from an attack of influenza in January last. Phlebitis had occurred five days after the fevers and temperature had subsided. The lymphatic glands in the groin were much enlarged.

With reference to these cases Mr. Bingham observed that the left femoral vein was affected in each case, that the attacks dated from a severe attack of influenza, with great prostration. The inflammation of the vein appeared within a week of the primary illness. All the patients were over thirty years of age. In no case was there any history of joint rheumatism or a previous attack of phlebitis. Mr. Bloomfield (Brit. Med. Jour. 1857) reports two cases of acute rheumatism with joint involvement, occurring after influenza. Dr. Norris Wolfenden of London reports (Brit. Med. Jour. March 8th) a case of adenoma of the carpus, in a girl aged 23 years. Otherwise perfectly healthy, coming on a week after influenza.

Dr. Basil of Tehran (Persia) cites acute rheumatism and in some cases marked adenoma of the face, legs, and hands, in the epidemic that took place in Persia.

The influence of influenza upon menstruating and maiden women, as before mentioned, has been remarked upon by several observers, including St. Roelof Buma of London.

In my own practice, I had three cases of abortion during the time the epidemics was at its height,
The disease [Influenza] in these cases ran its usual course and was but more severe than is generally the case.
One of these was that of a patient about two months pregnant. She was seized with influenza and during the attack, the miscarriage took place.

In the two cases the patients did not present any symptoms of the prevailing malady, but aborted apparently without cause. (Depravity)

One case of acute puerperitis, following labour, I met with during the time influenza was raging in Bristol; the patient was a fairimate, in comfortable circumstances, living in a house where sanitation was perfect. The labour was a natural one, and terminated without instrumental interference, and without any laceration of the perineum. Strict antiseptic precautions were taken throughout. It all went well for 36 hours, and then some abdominal pain of a flabby character, but without distention. No rigor was complained of; her temperature was normal, pulse about 96 per mm., skin passing fairly, lochia normal in quantity and not offensive. A dose of Castor oil was ordered, and a sedative and Carminative medicine prescribed. The former aide well, but the pain was still severe. The next day, her abdomen was enormously distended, and tender; vomiting set in, lochia increased in quantity, and became very foul, but not offensive; her temperature went up to 107° F., and continued so without remission, until the time of her death. The immediate cause of death
### Public Health Statistics relating to Twenty-eight Large English Towns, for the First Quarter of 1890.

<table>
<thead>
<tr>
<th>Towns</th>
<th>Estimated Population (1881)</th>
<th>Births</th>
<th>Deaths</th>
<th>Annual Rates per 1,000 Living</th>
<th>Small Pox</th>
<th>Small pox Deaths</th>
<th>Diphtheria</th>
<th>Whooping-cough</th>
<th>Pertussis</th>
<th>Diarrhoea</th>
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<tbody>
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<td>1</td>
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<td>19</td>
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<td>0.2</td>
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<td>10</td>
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<tr>
<td>Preston</td>
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<td>1,108</td>
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<td>1,835</td>
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<td>1.6</td>
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<td>Sunderland</td>
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<td>1,191</td>
<td>1,265</td>
<td>29.2</td>
<td>28.4</td>
<td>1.2</td>
<td>50</td>
<td>3</td>
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<td>11</td>
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<tr>
<td>Newcastle-on-Tyne</td>
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<td>1,178</td>
<td>1,218</td>
<td>24.5</td>
<td>24.6</td>
<td>1.0</td>
<td>57</td>
<td>1</td>
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<td>1,191</td>
<td>1,273</td>
<td>27.4</td>
<td>27.1</td>
<td>1.2</td>
<td>50</td>
<td>3</td>
<td>8</td>
<td>11</td>
</tr>
</tbody>
</table>

The 55,721 deaths registered in the twenty-eight towns during the first quarter of this year were equal to an annual rate of 247. per 1,000, against an average rate of 23.7 in the corresponding periods of the eight preceding years, 1882-89. The death-rate in these large towns, owing principally to the prevalence of influenza, was last quarter higher than in the first three months of any year since 1882. In London the rate of mortality was 26.6 per 1,000, while it averaged 25.8 in the twenty-seven provincial towns. The rates in these provincial towns ranged from 19.1 in Blackburn, 18.4 in Nottingham, 17.7 in Leicester, and 20.5 in Brighton to 25.5 in Blackburn, 28.8 in Bolton, 26.0 in Preston, and 33.9 in Manchester.
it fell to abnormal. This patient died within a week of her confinement of undoubtedly puerperal fever, for which it was impossible to assign a cause. There had been no case of Influenza in the patient's house, although there were many cases in the neighborhood, and I was in attendance upon about forty cases per day, at the time; whilst the immediate puerperal fever was in any way connected with the Influenza, I am not prepared to say, though it is possible, there may have been some connection between the two.

FATALITY - The fatality of the disease under consideration, has been estimated by various authorities to be in Britain, about two per cent of the cases observed; the fatal termination generally being produced by some complication, chiefly pulmonary. It is a remarkable fact that, although the Influenza fatality has been very low in relation to the numbers attacked, yet the mortality in all places, where the disease has been epidemic, has been abnormally high, the deaths being chiefly due to diseases of the respiratory organs. In understanding the mortuaity of the weather.

During the week ending January 10th it was 6.7. The week ending January 11th it was 67. The week ending January 18th, it was 127; the week ending January 25th, it was 105; the week ending February 1st, it was 127; the week ending February 8th, it was 105.
INFLUENZA DEATH-RATES.

The remarkable epidemic by which Europe has been lately visited has in various aspects attracted scientific study. With regard to the large increase in mortality due to it, the data of weekly death-rates now to hand afford a means of estimation and comparison. It may prove instructive to present some of these in graphic form, and we have selected for this purpose those of St. Petersburg, Vienna, Berlin (the upper group in the annexed diagram), and those of Paris, London, and New York (lower group).

Assuming that the pronounced rise in these curves is chiefly due to the epidemic—and of course there is a normal rise in early winter—one or two points may here be noted. The generally westward course of the disease is indicated in these curves. We have the earliest maximum in St. Petersburg about the end of November, then those of Vienna and Berlin towards the end of December, that of Paris a week later, and that of London a week later still. That of New York appears to have been simultaneous with that of London (week ending January 11th).

It is easy to see that Paris has been the greatest sufferer, her death-rate having reached the high point of 61.7, which is about three times as great as in the latter part of October. Next in order comes New York, then Vienna, St. Petersburg, Berlin, and last, London.

The figures of those maxima may be compared with the annual death-rates. Both are given in decreasing series:

<table>
<thead>
<tr>
<th>Place</th>
<th>Annual Death-rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paris</td>
<td>25.0</td>
</tr>
<tr>
<td>New York</td>
<td>20.6</td>
</tr>
<tr>
<td>Vienna</td>
<td>20.0</td>
</tr>
<tr>
<td>St. Petersburg</td>
<td>18.3</td>
</tr>
<tr>
<td>Berlin</td>
<td>17.9</td>
</tr>
<tr>
<td>London</td>
<td>17.9</td>
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</table>

Maxima:

<table>
<thead>
<tr>
<th>Place</th>
<th>Maxima</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paris</td>
<td>61.7</td>
</tr>
<tr>
<td>New York</td>
<td>40.5</td>
</tr>
<tr>
<td>Vienna</td>
<td>40.0</td>
</tr>
<tr>
<td>St. Petersburg</td>
<td>38.0</td>
</tr>
<tr>
<td>Berlin</td>
<td>30.4</td>
</tr>
<tr>
<td>London</td>
<td>32.4</td>
</tr>
</tbody>
</table>
The week ending February 8th, 38; the week ending February 15th, 30. Up to the week ending January 18th, the mortality from chest diseases increased enormously; among the latter week, doubling the average of preceding years, from this date onwards it began to decline, and being lower than the average for the corresponding period of preceding years. During the week ending February 1st, 1890, the rate of mortality was 20.2 per 10,000, during the week ending November 23rd, 1891. Since which time, it steadily increased, week by week, until it reached 31.2 in the week ending Dec. 24th, 55.7, in the last week of 1889, and 61.7 per 1000 during the week ending January 14th, 1890. The average death rate in the corresponding period of recent years was 25.1 per 1000. Of 2683 deaths recorded in the week ending Jan. 4th, 89 were directly referred to Influenza; and 977 deaths were due to diseases of the respiratory organs.

In Vienna, the following statistical report was issued showing the mortality in Vienna during the last eight weeks of the present year:

<table>
<thead>
<tr>
<th>Week</th>
<th>Deaths</th>
<th>Inflammation of Respiratory Organ</th>
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<tbody>
<tr>
<td>November</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd - 9th</td>
<td>306</td>
<td>59</td>
</tr>
<tr>
<td>10th - 16th</td>
<td>317</td>
<td>65</td>
</tr>
<tr>
<td>17th - 23rd</td>
<td>349</td>
<td>65</td>
</tr>
<tr>
<td>24th - 30th</td>
<td>362</td>
<td>64</td>
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<tr>
<td>December</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st - 7th</td>
<td>389</td>
<td>68</td>
</tr>
<tr>
<td>8th - 14th</td>
<td>413</td>
<td>78</td>
</tr>
<tr>
<td>15th - 21st</td>
<td>464</td>
<td>86</td>
</tr>
<tr>
<td>22nd - 28th</td>
<td>717</td>
<td>180</td>
</tr>
</tbody>
</table>

In Edinburgh, the mortality from chest disease.
for the week ending January 18th was 39.6 per cent. of the total mortality. This mortality, from this cause having only once been reached, during the last twenty years.

In Dublin, the rate of mortality from Influenza was estimated at two per cent.

In Barnes, Divisional Expert Metropolitan Police reports 290 cases with one death, which death it was doubtful was caused by Influenza.

Dr. Brinon, Clinical Assistant Bethlem Royal Hospital, received 240 cases - no death.

Dr. Zavoin, Medical Officer St. M's Prison Wandsworth received 157 cases - no death.

Dr. Sokolov, in an interesting paper read before the Society of Russian Physicians, in St. Petersburg, read with 134 cases, with two deaths; in persons suffering, the one from Chronic Kidney, the other from heart disease; both probably attributable to Influenza.

Shortly after the decline of the Epidemic upon the continent, first alarm was created by the intelligence that a new disease had appeared in Rome, named by the Italians "La Piana," the characteristic symptom of which was "sleep," in fact, a state of trance, from which the patient could not. Usually, the disease was unknown to occur only in persons who had had Influenza.
There were four cases, which had given rise to this report. Three were cases of coma and delirium, following typhoid fever. The fourth was a case of influenza. My colleague, the late Dr. J. C. Colman of Bristol, observed a case of strange drowsiness in a patient of his. Convalescent from influenza, the patient was a gentleman, upwards of 70 years of age, to whom the epidemic malady was complicated by a peculiar protracted pneumonia, with marked expectoration. From which he was slowly recovering. When convalescing, he was constantly thirsty, would fall asleep during his meals, and, during Dr. Colman's visits, whilst his pulse was being felt. The only explanation of the condition appears to be, that the patient at the time was suffering from extreme mental and physical debility, consequent upon the severity of the attack he had just recovered from.

6. Treatment - In general principles, and with a view to their special symptom. Rest, want of food and drink are of primary importance. The calls for more of milk, broth, butter, tea, and simple farinaceous food, beef, tea, chicken, or mutton broth. The juice of oranges is found very refreshing and is much relished by patients. I have been in the habit of giving the treatment by pouring a mild colonel's Rhubarb pill, which generally acts comfortably upon the bowels. Where the temperature is high, and the headache
Severe. Antipyrine in ten grain doses gives speedy relief. In some cases where the symptoms are prominent, I have found the following draught of great service R. P. tinct. gr. XV 3/6 Ammon. Acid. 1/6. Sod. farad. 80 gr. XV 1/6. Alboformi 3/2 Aqua ad 3 1/2. Mace 1/3 tinct. 3/4. From this point onwards, when cough is a troublesome symptom in the early stage, the above draught, omitting the Sod. farad. and substituting 1/2m. Spirit. and Tinct. 2 dalia with gr. Cauff. is generally found beneficial. As the temperature falls and restoration becomes true free. tonics, such as Quinine or Curare, back, in combination with Paragone, Syrup. and Senega. I have found useful. In addition more liberal diet, and stimulants, such as Champagne or Burgundy, and in reducing the debility and mental depression so frequently fresh with after the acute symptoms have disappeared. For the Insomnia, commonly observed, I have used with good effect, Alcool 4 hydrate, Alcoolamile and Parasoldehyde. Alcoolamile appears to be the most natural sleep, but its insobility is a great drawback to its use.

When Convalescence is thoroughly established, Iron. in the form of Ferrous 1/3m. and a thorough change of air, are to be recommended. Great care must be exercised in final letting the patient out of doors, as there is great liability to catch
Cold, which is often the starting point of aches and chest complications.

The complications must be treated by suitable remedies: the severe remittent following influenza, frequently proving troublesome, as was the case in a patient of mine, a strong healthy man aged 35 years, who during convalescence was attacked with violent septic orbital ophthalmia which did not yield to ordinary antiphlogistic measures, in turn, processed with very little benefit. Local applications were made with the same result; finally, the pain ceased as suddenly as it had come, and did not return.

Mr. Illingworth of Accrington, condenses the use of "in brochial Influenza of the compound of ammonium and the antipyrine forte". He prescribes it continually with vigorous ether, and from time to time, that by this means he has cured many patients. He also recommends hot baths, warm drinks, and pills: "The chief when there is excessive perspiration, he has the whole body immersed with 1/2 Camphor. Pain, he relieves with antipyrine, in 15 to 20 grains doses. He finds "apple water," an useful remedy, it is made by soaking slices of an apple, for a considerable time in hot water, then pouring off, the water to be drunk warm. Large quantities may be taken without disturbing the stomach."
In the Arch: Général August 1839, Glauser, recommends the use of lemon acid in doses of 20-25 grains, in Cachétis, for time line days; he has found, in 23 cases, that the Cachétis pains and nervous disturbances diminish. Spleen becomes quieter, and the appetite returns.

Dr. Worthington of Red Cap, has used electricity (50-40 cells Leclanché battery) in those cases complicated with neuralgia, and rheumatic pains, with great benefit.

Disease as met with in Bristol

2. Une of Inagination.

Cases of Pneumonic Cachétis were numerically, common during November and December, 1839, and I am convinced that sporadic cases of influenza did occur early in December.

The first case that came under my notice whilst exciting suspicions, was that of a young man aged 27 years, who whilst engaged in business, was seized with severe pains in his head and back, feeling ill, and chilly, he retired home, and went to bed. When I first saw him, his temperature was about 101° Fahr., his pulse was quick (100), his pains were much better, but he complained of a rusty, irritable cough, paroxysmal, and frequently disturbing his nights rest. Upon auscultation, numerous tomons, and dilated, tales, were heard chiefly at the bases posteriorly. No dulness on percussion. By means of Viet, warmth, diet
and the eating of a draft hormone, and expectoration
increased the patient soon recovered. Though for a considerable time, he was much debilitated.
The above case was seen by me on Dec. 9th, 89. The patient's family, and personal history were excellent: this was his first attack of bronchitis, and came on without apparent cause.
On December 9th, I was summoned to a gentleman, aged 31 years, who had just arrived from London, where the sickness was raging; he complained of a severe headache, lumbago-like pains in his back (over the sacrum), and aching limbs. His tongue was coated white. Bowels were confined.
Jawse about 100, and temperature 101° Fahr. In addition, he had a troublesome cough, with scanty expectoration, and a sense of tightness about the chest; and usually revealed acute bronchitis. The urine was high colored, and deposita littera. The appetite was gone, and the patient suffered considerably, with insomnia. Under treatment, the acute symptoms speedily passed away, but the cough and debility were more lasting.
On January 1st, December 29th, the wife of the above patient, and who had nursed him, was taken ill in like manner to her husband. She was a delicate lady, and had suffered considerably from asthma. She now had a return of her old malady, as a complication, and this proved very troublesome and the treating. The patient, high temperature 10 in the case. Forst
away, speedily. Though it was not until the beginning of February, that she was able to return to her residence in London.

In December 29th, I was summoned to a gentleman aged 38, a commercial traveller, who whilst on a journey, was suddenly seized with a feeling of chilliness, and violent pains in his head, back and limbs. He fell to ill, that he returned to Brussels immediately. When I first saw him, his skin was hot and dry, his conjunctiva injected, and there was considerable intolerance of light. The lacrimation, and a thin discharge from the nose, which organ, was much swollen, and reddened. As usual were the symptoms. The temperature was 103. pulse 130, full; severe headache, tenderness of the neck, with pain behind the sternum, and a sensation of tightness within the chest. The expiration was heavy and very difficult; the patient also complained of back ache, pains in the limbs. The tongue was coated, white; bowels confined; appetite nil, and great mental and physical depression.

Rest in bed, milk and barley, both mild; a mild aperient, and a medicinal calomel prescription ordered.

The following day the temperature was normal. The skin was acting freely; bowels open, pains diminished. Cough and debility were the chief symptoms. Complained of, which, under local treatment, and...
The actual oncoming increase and subsidence of the epidemic wave in various parts of the city is well shown by the appended returns for the 1st quarter of 1890 of influenza cases from the Bristol General Hospital and the Children’s Hospital; and of the general medical cases applying for relief at the Royal Infirmary, in which the marked rise above the general average is chiefly due to cases of this disease. The period of greatest prevalence is seen to be fairly synchronous with the weeks of highest mortality.

**1st QUARTER OF 1890.**

<table>
<thead>
<tr>
<th>Weeks</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol General Hospital, (Influenza).</td>
<td>0</td>
<td>15</td>
<td>41</td>
<td>51</td>
<td>123</td>
<td>159</td>
<td>146</td>
<td>170</td>
<td>48</td>
<td>37</td>
<td>19</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Children's Hospital, (Influenza).</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Infirmary, (General Medical Cases).</td>
<td>85</td>
<td>128</td>
<td>164</td>
<td>127</td>
<td>191</td>
<td>208</td>
<td>123</td>
<td>129</td>
<td>113</td>
<td>100</td>
<td>88</td>
<td>100</td>
<td>88</td>
</tr>
</tbody>
</table>

The last week of the quarter fortunately proved also the last week of the high rates, which have fallen for the first week of the second quarter to 17.9, and for the second week to 16.8.

The 1890 Epidemic of Influenza in Bristol has presented no features differing materially as regards the Public Health from its behaviour in the Epidemic of 1847. It has now, as then, been widespread or almost universal, but its mortality has been now, as then, relatively very small. On these points I have previously advised your Committee. 48 deaths have been referred in this city to influenza as the primary or secondary cause of death during the quarter, a very small number indeed when the vast number of these attacked, probably very modestly estimated at some twenty or thirty thousands taken into account. A similar epidemic amongst horses has been coincidently prevalent in the city.
Ronaldine, that soon passed away.

On December 20th, and on the 21st, I saw in both cases of Influenza, but it was not until the first week in January that the Epidemic was recognized.

It will be observed by the annexed table, kindly furnished me by the Clerk of the Medical Officer of Health for this City, that the greatest number of cases located at the Portland General Hospital were between the fourth and ninth weeks of the 1st quarter of the present year; at the Royal Infirmary, as many as 128 cases were reported during the 2nd week of the quarter, the largest number being observed during the sixth week; at the Children's Hospital, the greatest number was reported, as being seen between the fifth and eighth weeks (Excluding).

In fact, it was during the month of February that the Epidemic was at its height, and most practitioners observed the greatest number of cases between the 10th and 17th of that month.

From the latter date the Epidemic began to decline, though Curiously Enough, 100 cases are reported from the Royal Infirmary during the 12th week of the quarter.

Prorvalence - The population of the City of Bristol, estimated to the middle of 1890, at all ages is 232,248, and it is conjectured that 50,000 persons were attacked by the disease.
My own experience extends over 136 cases, distributed according to age, and sex as follows:

<table>
<thead>
<tr>
<th>Ages</th>
<th>Mr.</th>
<th>Mf.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-10</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>10-20</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>20-30</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>30-40</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>40-50</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>50-60</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>60-70</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>72</td>
</tr>
</tbody>
</table>

From the above it appears that females were less affected than males: and that these individuals, between the ages of 20 and 60 years, were attacked more commonly than those older or younger. The cases in which infants were attacked, were very rare, and only one such instance came under my notice: the same may be said of the very aged.

C. Contagious or Otherwise — The opinion on this subject greatly differs. Though the generality of practitioners in this city incline to the view that the disease is contagious, rather than infectious.

F. Shingleton Smith, Senior Physician to the Royal Infirmary, strongly upheld this opinion, after carefully studying the disease in 150 private patients who came under his notice.

As before stated, my observations have led me to believe that the disease in question is contagious. And in support of this view, I may cite, in brief, the following cases, occurring in my own practice:

(a) Mr. W's baby, aged 2 years, infected with influenza on February 7th. The child was nursed by his brother, and the latter was seized with the same complaint on the 9th. Mr. W's mother & his own

(b) Mr. X, aged 30, infected with influenza on February 8th. Mrs. X, his wife, and the children were not infected.
Living in the same house, fell ill with influenza on the 10th, and Mrs. W. was also attacked two days subsequently.

2. Mrs. J. was attacked with influenza on February 4th, her husband was away from home at the time, he returned on the 6th, and on the 8th he too became ill.

3. Mrs. V. was attacked on January 23rd. On the 25th her little girl became ill, and on the 27th, Mrs. V. was affected in the same manner.

4. Master M. was attacked on January 29th, he was visited by his brother, who was visited on February 2nd (four days subsequently). Miss P., upon whom devolved the necessity of attending to her mother, and brother, was attacked in a similar manner, on February 6th. The only noteworthy feature in these cases was the fact, that the period of incubation, apparently was about four days, as is commonly supposed.

5. Miss S. was visited after January 27th, she was visited by her sister-in-law, Mrs. S., in whose house the father lives. Mrs. S. both ill on January 30th.

6. Miss C. both attacked on January 14th, on the 16th her younger brother, sister, were attacked, and upon the 18th Mr. C. (the father), who visited Mr. C., also as severe.

7. Mr. C. (the case cited above) arrived from London, where influenza was prevalent; upon December 25th, he was attacked on the 27th, and Mrs. C. (his wife) on the 29th.
DEATHS.

The number of deaths registered during the quarter, at all ages and from all causes, was 1,561, corresponding to an annual death rate of 26·9. The death rate for the first quarter of 1889 was 20·23, and the average rate for this quarter for the last ten years has been 21·74.

Mortality under 5 years.—553 deaths of children under 5 years were returned during the quarter. The Child death rate, or proportion of deaths under 5 years to children living at that age was 71·6 per 1,000 annually; the Child death rate for the corresponding quarter of 1889 was 58·5.

Of the 553 deaths, 298 were of infants under 1 year, the Infantile death rate, measured by the proportion of deaths under 1 year to registered births, was equal this quarter to 174·3 per 1,000, and ranged from 107·6 in Westbury, to 307·6 in Castle Precincts. During the first quarter of 1889, 238 deaths of infants were registered, giving an infantile death rate of 135·8.

255 deaths were registered of children over 1 but under 5 years; during the corresponding quarter of 1889, 207 deaths were returned at these ages.

Mortality amongst persons aged 60 and upwards.—The deaths of 433 persons aged 60 and upwards were registered during the quarter, compared with 333 during the first quarter of 1889.

INFLUENZA.—The disease known as Epidemic Influenza became prevalent in the City during this quarter. 48 deaths were ascribed to this cause directly or indirectly in the death returns, this number of deaths would increase the mortality rate for the quarter by only 82 per 1,000 per annum.

But coincidently with the presence of influenza, the fatality of lung disease, of brain disease, and of heart disease, increased enormously; and, as had previously been observed in London and in other places during the prevalence of the epidemic, the added deaths from the three causes increased the general death rate to a very high total during the six weeks of its chief prevalence, viz. —from February 1st. to March 8th. The highest weekly rate, 37·5, was reached during the week ending February 15th, when 44 deaths were due to Bronchitis alone, and the total deaths from lung diseases (including Phthisis) amounted to 61.

The general mortality rate for the quarter is 26·95 per 1,000 per annum, a higher rate than has been recorded for any quarter for 15 years, but the first quarter of the year, however, frequently shows a very high rate of mortality, without seriously influencing the yearly average. Thus, in 1885 and 1887, the rate for the 1st quarter was respectively 24·9 and 24·3, while the rates for the respective years did not exceed 19·6 and 20·3.

From this it appears that while the inclemency of the former period was so marked as to reasonably account for the high fatality; the weather of 1889–90, though showing occasional sudden transitions from unusual warmth to cold dry winds—has not in fact varied sufficiently from the average to account independently for the unusual and prolonged fatality from diseases of the lungs, heart, and brain; and the conclusion appears to be irresistible that the epidemic influence, even when not manifesting itself by its recognised feverish symptoms, has yet proved itself a true cause in determining a fatal result by its debilitating influence upon persons already suffering from serious visceral disease.
From the Medical Office of Health Report

TABLE
Showing Deaths registered from Influenza during the 13 Weeks ending 29th March, 1890.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
<th>M</th>
<th>F</th>
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<th>M</th>
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<tbody>
<tr>
<td>0 to 1</td>
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<td>1 to 5</td>
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<td>55 to 65</td>
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<td>65 to 75</td>
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<td>75 to 85</td>
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<tr>
<td>85 and Upwards</td>
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</tbody>
</table>

Grand Total All Ages: 48
Comparative Table—Showing the general weekly death rate—and the number of deaths from diseases of the Lungs, Circulatory System and Nervous System during the first 13 weeks of 1890, 1889 and previous 10 years.

<table>
<thead>
<tr>
<th>Week</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Death Rate</strong></td>
<td>...</td>
<td>...</td>
<td>1890</td>
<td>26.04</td>
<td>25.79</td>
<td>25.31</td>
<td>27.16</td>
<td>25.94</td>
<td>34.79</td>
<td>27.49</td>
<td>25.63</td>
<td>27.16</td>
<td>26.39</td>
</tr>
<tr>
<td><strong>Death Rate</strong></td>
<td>...</td>
<td>...</td>
<td>1889</td>
<td>21.35</td>
<td>22.47</td>
<td>22.32</td>
<td>19.19</td>
<td>19.10</td>
<td>19.10</td>
<td>23.20</td>
<td>18.65</td>
<td>17.74</td>
<td>17.28</td>
</tr>
<tr>
<td><strong>Average for 10 years</strong></td>
<td>...</td>
<td>...</td>
<td>1889</td>
<td>22.75</td>
<td>21.90</td>
<td>21.77</td>
<td>22.77</td>
<td>22.37</td>
<td>20.64</td>
<td>20.77</td>
<td>20.21</td>
<td>20.33</td>
<td>20.78</td>
</tr>
<tr>
<td><strong>No. of Deaths from Brouchitis and Diseases of the Lungs</strong></td>
<td>...</td>
<td>...</td>
<td>1890</td>
<td>30</td>
<td>23</td>
<td>23</td>
<td>25</td>
<td>25</td>
<td>45</td>
<td>51</td>
<td>30</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td><strong>(Excluding Phthisis)</strong></td>
<td>...</td>
<td>...</td>
<td>1889</td>
<td>19</td>
<td>15</td>
<td>16</td>
<td>14</td>
<td>18</td>
<td>19</td>
<td>30</td>
<td>17</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td><strong>Average for 10 years</strong></td>
<td>...</td>
<td>...</td>
<td>1889</td>
<td>24</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>24</td>
<td>19</td>
<td>17</td>
<td>19</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td><strong>Disease of the Brain and Nervous System</strong></td>
<td>...</td>
<td>...</td>
<td>1890</td>
<td>14</td>
<td>16</td>
<td>16</td>
<td>12</td>
<td>8</td>
<td>18</td>
<td>19</td>
<td>17</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td><strong>Average for 10 years</strong></td>
<td>...</td>
<td>...</td>
<td>1889</td>
<td>7</td>
<td>13</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>15</td>
<td>7</td>
<td>7</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td><strong>Disease of the Heart and Circulation</strong></td>
<td>...</td>
<td>...</td>
<td>1890</td>
<td>14</td>
<td>7</td>
<td>9</td>
<td>12</td>
<td>14</td>
<td>14</td>
<td>9</td>
<td>14</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Average for 10 years</strong></td>
<td>...</td>
<td>...</td>
<td>1889</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
(3) Dr. Swan, of the Brighton Royal Infirmary, informed me of the case of man, who was admitted into one of the medical wards of that Institution, after admission he developed symptoms of Influenza, upon which he was removed from that ward; the following day, two cases, and the only ones in the Infirmary, appeared in that ward.

Undoubtedly, the above cases do not conclusively confirm the conclusion that Influenza is contagious, though they point strongly to the probability of such being the case.

(d) Mortality — The deaths from Influenza in this city, have been remarkably few. Only 48 have been reported up to the week ending March 24th, being only about 0.16 per cent. of the cases occurring in the city.

In the 136 cases, which came under my own notice, no death occurred; and my colleague, Dr. Colman, had no fatal case in about 250 that he treated.

The mortality of the city, however, during the present year, is shown by the Medical Officer of Health’s Quarterly Report. It has largely exceeded the average for the corresponding period during the past ten years; this increased death-rate, has chiefly been to bronchitis and disease of the lungs (excluding pneumonia).

The above, has also been the experience in all the towns, where the disease (Influenza) has been
# METEOROLOGY FOR THE 52 WEEKS ENDING 28TH DECEMBER, 1889.

*Height above Mean Sea Level—250 feet.*

<table>
<thead>
<tr>
<th>Week Ending</th>
<th>Barometric Pressure at 32° and sea level.</th>
<th>Highest Mean Temperature</th>
<th>Lowest Mean Daily Temperature</th>
<th>Mean Temperature at 5 feet above ground.</th>
<th>Mean Daily Range of Thermometer</th>
<th>Greatest Daily Range of Thermometer</th>
<th>Smallest Daily Range of Thermometer</th>
<th>Mean Humidity in a cubic foot of air</th>
<th>Grains of Vapour in a cubic foot of air</th>
<th>Prevalent Wind</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 5</td>
<td>29.71 30.11 30.36 30.37 30.39 30.39</td>
<td>68.6 68.3 68.3 68.3 68.3 68.3</td>
<td>37.8 37.8 37.8 37.8 37.8 37.8</td>
<td>58.5 58.5 58.5 58.5 58.5 58.5</td>
<td>2.9 2.9 2.9 2.9 2.9 2.9</td>
<td>98 98 98 98 98 98</td>
<td>1.9 1.9 1.9 1.9 1.9 1.9</td>
<td>E  E  E  E  E  E</td>
<td>W  W  W  W  W  W</td>
<td></td>
</tr>
<tr>
<td>Feb. 1</td>
<td>29.79 30.06 30.14 30.14 30.14 30.14</td>
<td>68.6 68.3 68.3 68.3 68.3 68.3</td>
<td>37.8 37.8 37.8 37.8 37.8 37.8</td>
<td>58.5 58.5 58.5 58.5 58.5 58.5</td>
<td>2.9 2.9 2.9 2.9 2.9 2.9</td>
<td>98 98 98 98 98 98</td>
<td>1.9 1.9 1.9 1.9 1.9 1.9</td>
<td>E  E  E  E  E  E</td>
<td>W  W  W  W  W  W</td>
<td></td>
</tr>
</tbody>
</table>
maintained. This increased death-rate was probably indirectly due to influenza.

(c) Meteorological and Other Phenomena Proceeding and Concurrent with the Epidemic.

The year 1889 was on the whole, a dry year. The total downfall was barely 30 1/2 inches against an average of about 34 inches. The driest months were January and June. Each showing a deficiency of over two inches. In June, there were twenty-five rainless days, and a total rainfall, scarcely exceeding half an inch; in fact, it was the driest June recorded in Bristol for 37 years.

The last four months of the year were all below the average in varying degrees. August, only slightly, September, October, and November, considerably. From August 22 to September 18th, dry weather prevailed with little interruption. October presents the paradox of a deficient rainfall with an unusually large number of rainy days. The weather through most of the month was very unsettled, and the falls of rain frequent, though seldom heavy. November also was somewhat inconsistent itself. There were eighteen deep brilliant rain-showers, owing, to the humidity of the atmosphere. The ground was at its time completely dry.

March, April, and July, were specially wet months. The first of these months, March, will be long remembered by the inhabitants of the low-lying part of Bristol, owing to the occurrence of fresh disastrous floods.
### Rainfall of 1889

<table>
<thead>
<tr>
<th>Week Ending</th>
<th>Rain, Inches</th>
<th>Week Ending</th>
<th>Rain, Inches</th>
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<tr>
<td>January 5</td>
<td>nil</td>
<td>July 6</td>
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<tr>
<td>&quot; 12</td>
<td>0.313</td>
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<tr>
<td>&quot; 23</td>
<td>0.027</td>
<td>&quot; 27</td>
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<tr>
<td>February 2</td>
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<td>&quot; 17</td>
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<tr>
<td>&quot; 23</td>
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</tr>
<tr>
<td>&quot; 9</td>
<td>0.367</td>
<td>&quot; 14</td>
<td>0.010</td>
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<tr>
<td>&quot; 16</td>
<td>0.061</td>
<td>&quot; 21</td>
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<tr>
<td>&quot; 23</td>
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<td>&quot; 28</td>
<td>1.537</td>
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<tr>
<td>&quot; 30</td>
<td>0.366</td>
<td>October 5</td>
<td>0.239</td>
</tr>
<tr>
<td>&quot; 6</td>
<td>0.030</td>
<td>&quot; 12</td>
<td>0.429</td>
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<tr>
<td>&quot; 13</td>
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<td>November 7</td>
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<td>&quot; 20</td>
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<td>&quot; 19</td>
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<td>&quot; 27</td>
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<td>&quot; 26</td>
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<td>0.407</td>
<td>December 7</td>
<td>0.540</td>
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<td>&quot; 14</td>
<td>0.672</td>
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<td>&quot; 18</td>
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<td>June 1</td>
<td>0.303</td>
</tr>
<tr>
<td>&quot; 23</td>
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<td>&quot; 20</td>
<td>0.448</td>
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<td>October 1</td>
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<td>&quot; 14</td>
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### Table

Showing deaths registered from all causes during the Year 1889

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<th>17 to 22</th>
<th>23 to 28</th>
<th>29 to 35</th>
<th>36 to 41</th>
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<td>I.—Specific Febrile, or Zymotic Diseases</td>
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<td>123</td>
<td>129</td>
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<td>92</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>III.—Dietic Diseases</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>IV.—Constitutional Diseases</td>
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<td>18</td>
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<td>20</td>
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<td>34</td>
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<td>41</td>
<td>32</td>
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<td>V.—Developmental Diseases</td>
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<td>61</td>
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<td>VI.—Local Diseases</td>
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<td>118</td>
<td>117</td>
<td>116</td>
<td>115</td>
<td>114</td>
<td>113</td>
<td>112</td>
<td>111</td>
<td>110</td>
<td>109</td>
</tr>
<tr>
<td>VII.—Deaths from Violence</td>
<td>6</td>
<td>2</td>
<td>10</td>
<td>8</td>
<td>17</td>
<td>4</td>
<td>10</td>
<td>4</td>
<td>9</td>
<td>2</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>VIII.—Deaths from Ill-defined and not Specified Causes</td>
<td>106</td>
<td>107</td>
<td>25</td>
<td>21</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
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</table>

| 106 | 107 | 25 | 21 | 10 | 10 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 562 | 414 | 310 | 285 | 201 | 157 | 156 | 155 | 154 | 153 | 152 | 151 | 150 |

| I | 106 | 107 | 25 | 21 | 10 | 10 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 562 | 414 | 310 | 285 | 201 | 157 | 156 | 155 | 154 | 153 | 152 | 151 | 150 |
In fact, so extensive were they, that half the city of Bristol was under water, and the strange spectacle of witnessing individuals paddling about in the shelter in the heart of the city became a repetition of these floods was threatened in the early part of April.

It will be observed (see table of weekly rainfalls) that, three and a half inches are set down to the week ending March 30th, and over three inches to the second week in April. March was the wettest month since 1867, and April, the wettest April recorded. July and August were more or less unsettled, while on the 10th of August it promised the like in June.

Two heavy falls of snow took place. The first on February 10th, to the extent of four inches; the second on March 4th, the depth being four and a half inches.

The mean temperature, during November, and first half of December, was certainly above the average for corresponding periods of former years. The mean temperature for the last half of December was very much above the average.

Thunderstorms and electrical phenomena were infrequent by their rarity during the year.

The year 1889 was on the whole, a healthy year. In Bristol, three cases of typhus occurred in the autumn, the disease had been absent from the city for 5 years; one case of smallpox was reported in January, this had evidently been introduced from Cardiff.
METEOROLOGICAL OBSERVATIONS AT CLIFTON COLLEGE.

(230 Feet above Mean Sea Level).

January.—During the whole of this month, with the exception of three days at the beginning and two days near the end, the temperature was considerably above the average. The lowest temperature realised was 21 degs. on the 2nd, and on that day the maximum thermometer registered only 30-8 degs. The mean temperature for the month was 43-76 degs. as compared with the normal value 39-24 degs. There was frost on the ground on 8 days.

In the third week of the month the barometer was very low reading only 28-631 inches on the 23rd, and the quantity of rain, was also unusually large, amounting to over 3 inches.

February.—This month was colder than usual, the mean temperature being 32-71 degs. as compared with the normal 41-19. It was also distinguished for the number of frosty days, the thermometer on the grass being below freezing point on 20 out of the 28 days. The lowest temperature reached was 24-3 degs. on the 28th, and the highest 52-1 degs. on the 20th. There was a period of low pressure from the 13th to the 17th accompanied by the fall of 355 inches of rain, and a subsidiary depression on the 20th and 21st accompanied by 192 inches of rain. Otherwise the month was very dry.

March.—The first few days were extremely cold, the mean temperature being below freezing point on the 2nd, 3rd, and 4th. On the fourth the thermometer on the grass registered 18-8 degs. From the 6th onwards, the mean daily temperature was higher than the normal. The average temperature for the month was 44-08 degs. as against the normal 41-76 degs. The highest temperature recorded in the shade was 59-3 degs. on the 30th. There was frost on the ground on 9 days, and in the screen on 3 days.

The barometer showed great variations of pressure during the month, reading 30-559 on the 3rd, and 29-164 on the 14th. The readings were under 30 inches from the 5th to the 9th, and again from the 14th to the 26th.

"The weather of the first three months of 1890, with reference, to its possible bearing on the public health, may be shortly summarised thus:

"January.—The first 3 days frosty, remainder of month rainy and very mild. On the whole, one of the warmest Januaries on record.

"February.—Cold and very dry, without severe frost. Extremes of temperature moderate in both directions; the lowest 28, the highest 50.

"March.—The first 4 days cold. The sharpest part of the winter on the 4th. Remainder of month mild and generally dry.

"The mean temperature some 3 degrees above the average.

### RAINFALL, FIRST QUARTER, 1890.

<table>
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</tr>
<tr>
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</tr>
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<tr>
<td>25</td>
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<tr>
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<td></td>
</tr>
<tr>
<td>1</td>
<td>0.995</td>
</tr>
<tr>
<td>8</td>
<td>0.002</td>
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<td>15</td>
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<tr>
<td>22</td>
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<tr>
<td>March</td>
<td></td>
</tr>
<tr>
<td>1</td>
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</tr>
<tr>
<td>8</td>
<td>0.239</td>
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<td>15</td>
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<tr>
<td>22</td>
<td>0.234</td>
</tr>
<tr>
<td>29</td>
<td>0.472</td>
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</table>

More than two-thirds of the rainfall of the first quarter of the present year belongs to the month of January, when rain fell on 22 days to the aggregate amount of nearly four inches. February and March were both dry months, the rainy days in February numbering 4 only, and in March 11. The entire fall in the quarter was but little over 3 inches, and was about 2 inches short of the average.
<table>
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<tr>
<th>Week ending</th>
<th>Barometric Pressure</th>
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<th>Mean Humidity</th>
<th>Wind</th>
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<td>SW</td>
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<td>26</td>
<td>30.28</td>
<td>97.2</td>
<td>75</td>
<td>NNE</td>
</tr>
</tbody>
</table>
CHART

Shewing the Annual Mortality from certain specified Zymotic Diseases for the 34 years 1856 to 1889 in Bristol and District.

For Details, see Table C.
CHART

Showing Mean Temperature, Rainfall, relative Humidity, (satisfaction—60), prevailing Winds, also number of Deaths returned from Diseases of Respiratory Organs excluding Pneumonia, and from Diarrhoea, the General Death Rate and the Zymotic Death Rate in the Bristol Sanitary District for each Week of the Year 1889.

Week ending


Rainfall in 10ths of Inches.

Prevailing Winds.

Line of Mean Temperature.

General Death Rate per 1000 per annum.

Zymotic Death Rate per 1000 per Annum.

1st Quarter. 2nd Quarter. 3rd Quarter. 4th Quarter.
223 cases of Scarlet fever were reported, probably the number of cases was in excess of them, all not being reported, asnotification was not compulsory.
213 cases of Diphtheria were reported; 114 cases of Enteric (or Typhoid) fever were reported, and was unusually prevalent, during the first six months of the year.
Measles was rather more prevalent than in the year 1888, and the same may be said of Whooping Cough.
Diseases of the Respiratory organs were not more common (except in the last quarter of the year) than usual.
Diphtheria was prevalent during the Autumn, and considerably raised Infantile mortality.
In the whole there was nothing remarkable to note in the year. Excluding the rise in chest affections towards the Winter, it must be noticed the fact that the weather was unusually mild.
The first quarter of the present year was remarkable for its mildness, the mean temperature being, especially during January, very considerably above the average.
The death rate in Bristol was very unusually high during the week ending February 15th, the high mortality being due to the number of deaths caused by diseases of the respiratory system. MESS. J. C. Hall and Sons, Carriers, had a large number of their horses laid up with coughs just before. Influenza became epidemic in Bristol.
There has been no evidence to show that the disease has been prevalent in any of the other large animals in this city.

(2) Symptoms - mental and moral.

The characteristic symptoms were slight shivering, sometimes a sensation of cold water trickling down the spine, followed by severe frontal headache, and a lumbago-like pain in the back, bowing generally on the face, and, at the same time, the patient usually complained of feeling very ill, and depressed, a short hacking cough, with a hasty, quick expiration, usually appeared, at this stage, accompanied by high fever, and a dry skin. The symptoms of coma and delirium were not marked in the majority of my cases, nor indeed in Bristol.

Written twenty-four hours, as a rule, the temperature began to abate, and profuse sweating took place. The pains disappeared, leaving the patient, with a cough, more or less troublesome, and much debilitated.

The bowels, in most of my cases, were at first confined, and it was generally necessary for some days to prescribe an aperient to relieve them; the appetite was gone, and the tongue moist, but covered with a white film.

The urine, without exception, was in the early stage, very high colored, generally deject, and ichthiostatic.

The above were the usual symptoms observed.
Exacerbations were not wanting.

The three types of the disease, as described by Remus and others, were, on the whole, well marked as the following cases in my practice show.

Case 1. **Gastro-intestinal type**

Miss E. C., aged 35 years, was first seen by me on Dec. 18th, 1859. Her chief complaint was, violent diarrhea, the motions being very pale, relaxed, and most offensive, in fact, resembling typhoid evacuation—pointing to typhoid fever. There were no pains about the body generally, and no constipation with mental depression. These symptoms had commenced apparently without cause, the day before I saw her; there had been no indisposition in diet, and the sanitation of the house seemed perfect. The illness commenced suddenly. Her temperature was 101° Fahrenheit. Pulse 120. Her face was one of distress. Her bowels were acting about every hour. There was an abdominal pull, tenderness, and severe griping pain in this region. The tongue was dry and coated white. The urine, when passed without food, was scanty and thick-colored, containing no albumen. It first impression was, that the patient was suffering from typhoid fever, but subsequent events proved that my fears were groundless. Positives of masticated meal were ordered, and a patient as follows was prescribed: R. Bromide subnitrate: q.s. P. i d. 6 gr. carb: q.s. x. Acid. h. i d. 20.
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<th>Motions Urine &amp; Co.</th>
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Jan 26th. Temperature 100.5. Pulse: 96. Patient felt better. Haematemesis.


Jan 31st. Patient felt better. Haematemesis.

Feb 1st. Patient felt better. Haematemesis.

Feb 2nd. Patient felt better. Haematemesis.


Feb 5th. Patient felt better. Haematemesis.


Feb 7th. Patient felt better. Haematemesis.

Feb 8th. Patient felt better. Haematemesis.

Feb 9th. Patient felt better. Haematemesis.

Feb 10th. Patient felt better. Haematemesis.


Feb 12th. Patient felt better. Haematemesis.

Feb 13th. Patient felt better. Haematemesis.

Feb 14th. Patient felt better. Haematemesis.


Feb 16th. Patient felt better. Haematemesis.

Feb 17th. Patient felt better. Haematemesis.

Feb 18th. Patient felt better. Haematemesis.

Feb 19th. Patient felt better. Haematemesis.

Feb 20th. Patient felt better. Haematemesis.

Feb 21st. Patient felt better. Haematemesis.

Feb 22nd. Patient felt better. Haematemesis.


Feb 26th. Patient felt better. Haematemesis.


Feb 28th. Patient felt better. Haematemesis.

Feb 29th. Patient felt better. Haematemesis.

Feb 30th. Patient felt better. Haematemesis.

Feb 31st. Patient felt better. Haematemesis.
Case 2. Nervous type.

Mrs. C. was first seen by me on the evening of January 15th. Her symptoms, in brief, were as follows:

She had been feeling quite well, with the exception of some headache in the morning of the day in question, but in the afternoon she felt "cold and shivery," which was shortly followed by violent headache, chiefly frontal, and severe pain in the back, also aching of the limbs, and then the sensation of cold jaws placed to burning head, with flushed face. When I saw her, she looked very distressed. Her pulse was 140, and the thermometer registered 104.2° Fahr. The skin was hot and burning, and dry. The tongue was moist and fairly clean. Her bowels were contained. Appetite gone. Urine, dark colored, and giving rise to sensation of "scalding" upon being voided. No local tenderness upon pressure. No cough.

Treatment as follows: Diet—Milk and Pomegranate water. Rest in bed (between blankets).

R. Calomel gr. v St. pulv. 1 St. St. F. B. ipecac. 2 St. ipecac. 2 St. St. N. hund. 3 St. ipecac. 2 St. St. diarrhoeic.

January 15th. 9 p.m. "The improvement of this morning is maintained. Temperature normal. No pains. Pulse 76. Skin moist. Bowels have been again during the cough. Antipyrine discontinued."

Treatment - Diet. Milk and farina, no food.


Case 114. Respiratory Type.

W. C. aged 45 years, employed in the Brooklyn General Post Office, where there had been numerous cases of the prevailing disease, came to me on January 15th.

In the morning he was in his usual health, and went down to the office about mid-day. He had a sensation of chilliness, followed shortly by headache, pain in the back, and limbs. He felt so weak that he left the office and came home; after arrival he went to bed at once, and sent for me.

I saw him about nine in the evening. He looked very distressed, and was complaining of feeling very ill. In addition to the pains, he was troubled with a slight cough. I found no Cetera, Reexploration, and a sense of constriction round the thorax, in addition he complained of sore throat, and difficulty in swallowing.

The skin was hot and dry; bowels were confined, the tongue was furred, and indicated at the edges by the teeth; the bowels and the faeces were thin and diarrhoeal. The conjunctiva were injected, and there was some
Discharge from the nose, of thin clear mucus. The temperature was 103°. Pulse 134. Urine high colored, and was found to contain urates: Voice hoarse.

Upon examining the chest, the percussion note was everywhere healthy, and also was the vocal resonance.

Upon auscultation, "rubbing" and "squeaking" rales were heard all over the chest, and the back. Vocal resonance normal. Other organs healthy.


Fomentations to be applied alternately to the chest and the back. Every four hours.

January 16th: The patient passed a restless night. Though he felt much better, the headache continued, and the pain in the back was much relieved. The bowels were fully formed once. Cough was troublesome. Though the expectoration was clear, free, and slightly tinged yellow, tongue somewhat cleaner. Skin moist. Throat still considerably infected, and painful. Temperature 102°. Pulse 120. The same diet. Fomentations and fomentations were ordered.

January 17th: The patient had a better night, and fell into himself. Though scanty debilitation. Expectoration...
few, and decidedly more pronounced. Numerous hoarse sounds were heard on the chest and back. Tongue cleaner. Throat immeasurably less injected, and not so painful. Bowels were not moved. Temperature was 99°. Pulse 96. Urine was passed in fair quantity and much lighter in colour.

From this date, the patient rapidly improved, and by February 4th, was able to return to work. The cough and debility, however, continued for some time longer. But eventually disappeared under nourishing diet, champagne and Brand's tonic.

On February 6th, Mr. J., aged 45, a commercial traveller, sent for me. He had just returned from Cardiff, where influenza was raging. Whilst transacting business, and when in his usual health, he became conscious of a sensation, as though "cold water was trickling down his back," and almost immediately afterwards, he was seized with violent pain behind the eyes, balls, and a feeling, as though he had been stabbed in the back. These symptoms made him feel very ill, and he immediately returned home to Bresthall, and then went to bed.

Upon my arrival, I found the patient in a state of great mental and physical depression; he complained of violent pain in his head, back, and limbs, and sore throat, also of a sensation of rawness down behind the sternum, this latter symptom being very troublesome, and it lasted a considerable time. There was slight cough, with very scanty expectoration.
and each effort of coughing, gave him a feel-pain down the Course of the Trachea. His skin was hot, and dry; the Conjunctivae were injected, the throat (tongue and tonsils) were red, dry, and swollen. Mucous membranes presented a Whitish Coating. Bowels were confined. Temperature was 102.6. Pulse 120. Examination of the chest, and back revealed nothing beyond bronchial breathing being harsher than normal, with hiccough, an occasional "tickling" or "scorning" note. Treatment - Rest in bed between blankets; a mustard plaster to the chest; and the following prescription: R. Hydrag: Salol: 2 dr: Bulla: 5 dr: Pn: Pn: Quin: 5 dr: Fr: Lq: St: Quin: 2 dr: R. Pot: Cal: 4 dr: Lq: Am: and: 2 dr: Vin: Que: 2 dr: Pn: Chlor: 2 dr: Glycerini 1/2 Ag: Camph: and 3/4 dr: Mr. Must: Pulse 84 Lq: 3/4 Exq: Quant. hot, S. Diet: Milk and barley water.

February 7th. - Patient passed a restless night; pain in the back relieved. Though the head was still very uncomfortable, bowels had been moved freely. Skin acting well. The discomfort behind the sternum much the same. Cough troublesome, expectoration somewhat freer. Temperature was 100. Pulse 100. Appetite was very poor. By means of the Stethoscope, no trumps were heard, all over the chest and back. Treatment - as before but omitting nux vomica.

February 8th. The condition of the patient was much the same. The chief symptom complained of was the head.
of soreness behind the ears; temperature 100.4.
Pulse 100.
Cough troublesome, but expectoration free, and
Head symptoms decidedly reduced. Heart looked
inflamed, though there was still much discomfort.
Complaints of down the throat. Appetite improved.
The following medicine was prescribed: P. A. 5 dr.
Sig: ZF. Sag. quart. horis ferrum.

Convalescence in the case was very slow, and the
subsequent debility very marked. The tracheal
sensation lasted for a considerable time.

When the epidemic was at its height in Brussels,
I was unfortunate enough to develop the symptom.
The usual pains in the head, and the back.

Due on the 27th of January, I contented myself by
catching a saline draught. Every few hours, containing
some salicylates of sodium, and continued working
as usual. The pains within a few hours disappear.
About the 4th of February, however, I began to
Cough, but not feeling otherwise too well. I took
his entire fit; the cough however continued, and
at times, more than troublesome. My appetite for
food, the bowels were acting regularly, and I was
not conscious of any feverish symptoms until the
9th. When after an exceptionally busy day's work
My face fell. flushed, my head was aching, and my pulse 120; I then, for the first time, took my temperature, and found it to be 103°. I went to bed, took two grains of Antipyrine, being two hours, and an anointant. The night was a very restless one, my skin, venousig blood, was hot and dry, and it was not until early morning that it began to chill. Upon rising, I felt better, though very shaky, prompted for fresh breakfast, after which the bowels were well moved. Pulse 100. Temp. 101°.

As I was paying between forty and fifty, at the time I was unable to read, and continued my work as usual. At nine (Feb. 8th) pulse 120

Semp. 103°; face again flushed. Head aching, and also my limbs. The cough was very troublesome. Examination: Family easy, Throat prominent. Skin hot and dry. Tongue, family clean. Appetite some what diminished. I had a hot bath and went to bed; at the same time, I prescribing for myself a mixture containing Quinine and Bismuth. During the night, I had not slept. The next day, Feb. 9th, Pulse was 100. Temp 100.2. I continued my work as usual, until the 12th, when, knowing that my condition was steadily setting worse, I went to bed, and requested my colleague, Dr. Colman, to examine me. He kindly came and saw me, upon my complaining of pain in the stomach, but very localized pain in the fourth left interspace, close to the sternum, he applied...
his & the other three, and at the first indication he
heard distinctly, rales, & c. & c. Constitution. The cough was
frequent, and at intervals & c. & c. The rales were
fumes, prominent, and at the time, & c. The percussion
note was perfectly resonant throughout, and the
valve resonance very close & c. The Ewing
thermanometer, for 5 days, & c. & c. & c. between 102° & 103°.
The morning 103°. & c. & c. Pulse was weak, & & c. & c.
between 100 and 120 per min. & c. & c. & c. & c. & c. & c.
ment, mental depression, and physical debility, were marked
symptoms, in addition to the cough. Boards were
inclined to be confined. & c. & c. & c. & c. & c. & c. & c. & c.
February 18th - Subcutaneous rales, were described
throughout the whole left lung, the right remaining
quite clear, except at the extreme base. Notably
where occasional thumps were heard. The pain
(before mentioned) in the chest was still present,
but did increase in area or in severity.
For three or four days, his condition remained
unchanged, excepting that his temperature was
gradually coming down. Though his pulse still
kept between 120 and 120. About the 20th of February
the left lung began to clear, and within 48 hours
had begun to do so, had quite cleared, though
for some considerable time longer. The breath sounds
were rather more harsh, than normal. At the
same time, his appetite rapidly improved, and
slept better. This attack left him very much
debilitated, which debility continued for about

derm a month, after becoming convalescent.
Toward the middle of March, it was deemed
advisable for me to go away for a change of air,
which advice, I acted upon, and was enabled to
repair home again by the beginning of April.
The above attack was diagnosed as one of bronchic
inflammation, with phlegm, capillary bronchitis,
and was called upon, as a sequel to the Influenza
I had, at the end of January, and due probably
to insufficient care being taken, against Cold,
after the Influenza attack;

I might mention that my family history
upon all sides, is in all excellent, and that
was my first illness, any sort, so that
the peculiarities of the attack, were in all
probability entirely due to Influenza.
The treatment adopted in my case was, at the
best in bed, poultices for the relief of the pain
in the chest, and, during the early stage, a
simple saline diet little and expeditious,
fruits, and later, 2 once, with hardening
food, and Champagne. The bowels throughout
were carefully regulated.
Among the complications that came
under my notice during the Epidemic were.
(a) Ulcerated tonsils, with albuminuria.
(b) Hemoptysis, without any pneumonia.

In a man aged 45, who had had scarlet

attacks of bronchitis, on previous occasions. I looked upon this as a case of acute conjugate bronchitis, complicating influenza.

(c) Haematuria in a child, aged 10 years, with severe throat symptoms, occurring during an attack of influenza. Among the sequelae I had examples of:

(a) Severe neuralgia affecting the superficial branch of the fifth nerve, in a gentleman aged 35; it followed the attack of influenza in about a week, and the pain experienced was most intense, and persistent.

(b) Several cases of opthalmia, and ophthalmia.

(c) One case of peripheral neuritis, in a young lady, about 18 years of age, occurring about three weeks after an influenza attack.

(d) One case of 'hence deafness', in a boy aged 18 years whose hearing was perfect up to the time he had influenza.

(e) Several cases of 'separation, in women of nervous temperament', though such cases present many such symptoms prior to being attacked by influenza.

(f) Cases of delirium, or of symptoms upon the skin, came under my notice, and I found the symptom of Cynge to be a somewhat rare one.

Of all the complications of influenza, none was more common in my practice than Acute
concluded which appeared to attack about 75 per cent of my cases.

I had an opportunity of observing an attack of 

influenza during the Puerperium. The patient 

a lady of full-blooded family history, and, in whose 

left lung, there were symptoms of incipient disease 

was confined on January 22nd. On the 24th, she 

Complained of severe headache, with pains in the back 

and limbs, a sensation of tightness in the chest, 

hit, a short, troublesome Cough. In addition, 

were present symptoms of "Cough." Her temperature 

was 102°, and the pulse 130. Her bowels were open; 

the lochia was watery; and the breasts, beginning 

still with mild. There was no abdominal tenderness. 

Upon percussion, nothing abnormal was 

detected. Nor was there upon auscultation, 

some hardness of the breath sounds.

Treatment consisted in milk and Phthisic water, 

and the prescribing of a diaphoretic and drainer. 

Facial mixture; also, Lund's meal (with tincture) 

stronger to be applied, alternately, to the chest 

and back, for the relief of the tightness Complained of. 

At the same time, a clean Kettle was placed 

to the keg, kept in the room day and night. 

On the 25th, the patient's condition was rather worse, 

the temperature being elevated to 103°, with pulse 

130; Cough very troublesome, proming sleep, 

expiration difficult and scanty. The same 

treatment was continued. Upon this day, the
Slighter. The revealed an extensive brocaded.
On the 26th the patient's condition had decidedly improved, and from this date onward she steadily progressed, and at the time of writing is in her usual health.

It is interesting to note that the pre-existing mischief, was not increased in her case. Also, the baby, though with the patient throughout the attacks, entirely escaped infection.

Lastly, a case has recently come under my notice of a phthisical young man, becoming attired with influenza. Complications between "Ciliary Bronchitis" and the "cough" that the patient is fast finding from his phthisical trouble.

In conclusion, large numbers of people will have reason to remember the influenza epidemic of 1889-90. The disease in question had many points of great interest, none especially, as regards "Pathology," which is still shrouded in mystery. Though doubtless, as long the curtain will be removed, and the true cause of the disease, will be brought into the full light of day.

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Redland Road
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