

SANITARY CONDITION  
OF THE CITY

REPORT OF THE COUNCIL OF HYGIENE  
AND PUBLIC HEALTH  
OF THE CITIZENS' ASSOCIATION  
OF NEW YORK

---

---

*ARNO PRESS*  
&  
*The New York Times*  
NEW YORK • 1970

# REPORT

OF THE

## SIXTH SANITARY INSPECTION DISTRICT.

WILLIAM F. THOMS, M. D.

*Sanitary Inspector.*

BOUNDARIES.—North by Walker and Canal Streets, east by the Bowery, south by Chatham Street and Park Row, west by Broadway. This district comprises the Sixth Ward.

### STATISTICS OF DISTRICT.

Whole number of buildings.	Dwellings.	Stables.	Liquor Stores.	Brothels.	Stores.	Manufactories.	Churches.	Public Schools.	Dispensary.	Arsenal.	Asylum.	Prison.	Railroad Depot.	Parks.	Vacant Lots.
1380	182	43	406	29	523	117	6	3	1	1	4	1	1	3	3

### STATISTICS OF TENANT-HOUSES, BASEMENTS, AND CELLARS.

Tenant-houses.	609
Rear Tenant-houses.	154
Number of Tenements without Fire-escape.	303
Number of Tenant-houses not connected with any sewer.	302
Number of Tenements in good Sanitary condition.	24
Number of Tenements in faulty Sanitary condition.	585
Number of Families in Tenant-houses.	4400
Average number of Families to each Tenant-house.	7½
Tenement Population.	23,000
Tenement Population with less than 300 cubic feet of air.	2720
Minimum average cubical space to each person in a house on Worth Street.	CUBIC FEET. 123
Average age of Tenement Population.	YEARS. 23
Cellar Population.	496
Average cubical space to Cellar Population.	FEET. 615

## STATISTICS OF DISEASE. [INCOMPLETE.]

Statistics of Disease on record since the commencement of this year, 1864 (for ten months), occurring in streets and parts of streets in this District.\*

STREETS.	Typhus Fever.	Typhoid Fever.	Fever.	Varicella.	Rubeola.	Scarlatina.	Erysipelas.
Mulberry Street, . . . . .	57	2	35	17	20	6	6
Baxter Street, . . . . .	40	3	13	3	12	2	5
Park Street, . . . . .	16	1	11	2	3	2	..
Bayard Street, . . . . .	8	..	..	..	1	1	..
Pearl Street, . . . . .	13	..	..	1	..	..	..
Leonard Street, . . . . .	5	..	2	2	3	..	..
Mott Street, . . . . .	8	1	4	..	1	..	..
Elm Street, . . . . .	4	6	1	..	..	..	..
Worth Street, . . . . .	3	..	1	1	1	..	..
Franklin Street, . . . . .	2	..	1	1	5	1	..
Canal Street, . . . . .	1	1	2	..	1	..	..
Centre Street, . . . . .	3	..	2	2	..	..	..
Mission Place, . . . . .	3	..	..	..	..	..	..
Doyer Street, . . . . .	..	1	3	..	1	..	..

## STATISTICS OF MORTALITY.

Number of Deaths in 1860.	Maximum.		Minimum.		Number of Deaths in 1861.	Maximum.		Minimum.		Number of Deaths in 1862.	Maximum.		Minimum.		Number of Deaths in 1863.	Maximum.		Minimum.	
	AUGUST.	JUNE.	AUGUST.	NOV.		AUGUST.	JUNE.	AUGUST.	JUNE.		AUGUST.	JUNE.							
963	143	53	1054	129	68	928	126	61	1114	177	78								

## Statistics of the Ratio of Deaths to the 1,000 of the Population.

Ratio of deaths per 1,000 in the Sixth Ward, in the year 1860. . . . .	36
Population to one death in the Sixth Ward, in the year 1860. . . . .	28½
Ratio of deaths per 1,000 in the month of August, in the year 1860. . . . .	5½
Ratio of deaths per 1,000 in the month of June, in the year 1860. . . . .	2
Ratio of deaths per 1,000 in the Sixth Ward, in the year 1861. . . . .	40
Population to one death in the Sixth Ward, in the year 1861. . . . .	25½

\* From the New York Dispensary and the Bellevue Hospital Records. This is but a small percentage of the total number of cases of these diseases in this district.

Ratio of deaths per 1,000 in the month of August, in the year 1861. . . . .	5
Ratio of deaths per 1,000 in the month of November, in the year 1861. . . . .	2½
Ratio of deaths per 1,000 in the Sixth Ward, in the year 1862. . . . .	36
Population to one death in the Sixth Ward, in the year 1862. . . . .	28½
Ratio of deaths per 1,000 in the month of August, in the year 1862. . . . .	4½
Ratio of deaths per 1,000 in the month of June, in the year 1862. . . . .	2½
Ratio of deaths per 1,000 in the Sixth Ward, in the year 1863. . . . .	43
Population to one death in the Sixth Ward, in the year 1863. . . . .	24
Ratio of deaths per 1,000 in the Sixth Ward, in the month of August, in the year 1863. . . . .	6½
Standard ratio of deaths to 1,000 in healthy population. . . . .	
Population to one death, standard. . . . .	17
Ratio of deaths per 1,000 in the United States. . . . .	54
Population to one death in the United States. . . . .	23
Population to one death in the United States. . . . .	45

**GEOLOGY.**—The geology of the Sixth District consists mainly of what is known as diluvium. It is a compound of boulders, gravel, sand, and silicious clay.

**TOPOGRAPHY.**—A high hill was graded down between where Worth and Canal Streets now intersect Broadway. Its height was from twenty-five to thirty feet above the present level.

On this hill, near where Franklin Street is located, on the east side of Broadway, stood a reservoir, built before the Revolution, for supplying the city with water.

**COLLECT.**—The largest pond on Manhattan Island was located upon that part of the city which is now included between Baxter and Elm Streets, and between Duane and Canal Streets, in the middle of which section Centre Street now passes.

The Halls of Justice, a prison of Egyptian architecture, vulgarly called the "Tombs," stands near what was once the middle of the Collect. The place and appearance of this pond are still in the memory of some venerable citizens of New York. Its peculiar topographical features, the high hill rising abruptly from its sides, the groves upon its borders, the depth and purity of its waters, are things much spoken of in the historical records of New York.

The water of this little lake was of great depth and of unusual purity. One of its principal fountains, afterwards well known as the "Tea-water Spring," supplied ten or twelve thousand inhabitants with water for their favorite beverage.

A sparkling brook carried off its water into the East River, while towards the North River stretched a marsh covering a large extent of land, through which streamlets from this pond made their way.

For more than a hundred years after the settlement of the island by

Europeans, fish were abundant in this pond, and were caught by nets during all that period. Several plans were presented for the permanent regulation of the locality. Among others was one proposition to make a dock, or basin, in the deep water of the *Collect*, as a harbor for shipping, and to communicate with both the North and East Rivers, by means of a canal forty feet in width. It was concluded, however, not to construct a basin, but to fill in the *Collect*, the question of a canal being still left unsettled.

About the year 1800 the work of filling in the *Collect* was commenced, and continued about ten years. The long time occupied in this labor occasioned a serious inconvenience to the neighborhood; and the pond, in place of its originally beautiful appearance, became a nuisance. Dead animals, together with every species of rubbish and offal, were thrown into it, and occasioned an insufferable stench. This, however, was remedied.

At the great undertaking of filling up this pond, a curious fact occurred. The specific gravity of the sand and gravel of the hill was so much greater than that of the mud and sediment of the pond, that in gravitating to the hard bottom it pushed up in its centre several islands of this sediment, which were raised some 8 or 10 feet above the level of the water; and this becoming dry and cracked open, salt was discovered to be present in great abundance. The pond was drained by a canal which extended down Canal Street, and entered the North River at the foot of that street. The old stone bridge on Broadway passed over this canal. For a number of years a ditch ran through Centre Street, but this also was filled up, and all traces of the *Collect* were obliterated.

**STREETS.**—The streets parallel with the long axis of the island are variously from 36 to 60 feet in width. The streets intersecting these are narrower, and in an equally bad sanitary condition. Most of them are paved with cobble stone, and, with few exceptions, are in a very filthy condition summer and winter; domestic garbage and filth of every kind being thrown into the streets, covering their surface, filling the gutters, obstructing the sewer culverts, and sending forth perennial emanations which must generate pestiferous diseases.

**Garbage.**—In winter the filth and garbage, etc., accumulate in the streets, to the depth sometimes of two or three feet. The garbage boxes are a perpetual source of nuisance in the streets, filth and offal being thrown all around them, pools of filthy water in many instances remaining in the gutters, and having their source in the garbage boxes.

The streets have been cleaned occasionally this summer; but unless a system is adopted whereby the inhabitants will be prevented from throwing filth and garbage into the streets, cleanliness is impossible.

**SEWERAGE.**—The streets of this district are generally sewered, but most of the sewers are faulty in construction.

The outlet to those in the upper part of the district is through the Canal Street sewer, which empties into the North River at the foot of that street. The mouth of the sewer is uncovered at low water. The outlet to those in the lower and Chatham Street side of the district, is through the Roosevelt Street sewer, the mouth of which is also uncovered at low water. The culverts at the corners of the streets are often choked up on account of the large amount of filth and garbage thrown into the gutters, and which is carried down into the sewers. The culvert at the corner of Bayard and Baxter Streets is frequently in this condition, and the accumulated filthy water is sometimes allowed to stand several days before an outlet is cleared for it. Typhus fever, diarrhoea, and cholera infantum are the constantly-prevailing diseases in this pestilential locality.

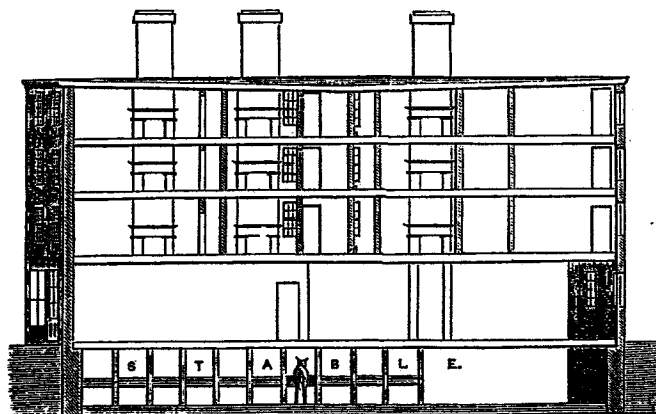
**THE SQUARES.**—There are 43 squares, 14 of which are tolerably good, 15 in a very bad, and 14 in a mixed and faulty sanitary condition. 7 of them are parts of squares, 6 of them triangles, covered with solid blocks. The "Tombs" and the New Haven Railroad Depot each occupy a square between Centre and Elm Streets.

**INHABITANTS.**—Two-thirds of the population is composed of the lowest grades of the laboring poor, and of vicious classes; the remaining third is made up of better classes of people who live upon wages. This district has the most exclusively foreign population of any portion of the city, the American population being estimated at *less than five per cent.* of the whole. The Irish constitute seventy-four per cent. The remaining twenty-six per cent. is made up mainly of German Jews, Italians, etc. The German Jews devote themselves to their favorite occupation of old clothing, and seem to have made Baxter Street their headquarters. Many of the Irish keep junk shops, liquor stores, groceries, etc., etc. The Italians are ragpickers, organ grinders, etc., etc.

**TENANT-HOUSES.**—Many of the tenant-houses are located over what was once the "Collect;" two-thirds of them are very old wooden structures. Some are quite small, containing from 4 to 8 families in as many rooms; others comparatively large, containing from 12 to 15 families. This class of houses is occupied by the lowest grade of inhabitants; many of them are used as lodging-houses, and as many as thirty persons are sometimes packed into one small room. There is one house of this character in Baxter Street, from which a very large number of patients has been sent to the fever hospital, and among which the mortality is very great. About a third of the number of buildings consist of the better class of brick tenant-houses, and contain from 10 to 50 families each.

The *pro rata* of ground-area to each occupant, in many instances, is less than 15 square feet, and the cubical space in the apartments to each occupant is less than 300 feet; and one-half of the tenant-house population have less than 500 cubic feet of air to each person.\*

The external and internal ventilation, in many instances, is very imperfect, front and rear buildings being within 8 or 10 feet of each other. Stores, schools, and churches are built the whole length of the lot, obstructing the circulation of air between rows of front and rear houses; tenant-houses surround entirely, or very nearly, small courts; and in many instances the rear buildings of the blocks upon parallel streets are built closely back-to-back, thereby utterly excluding external ventilation.

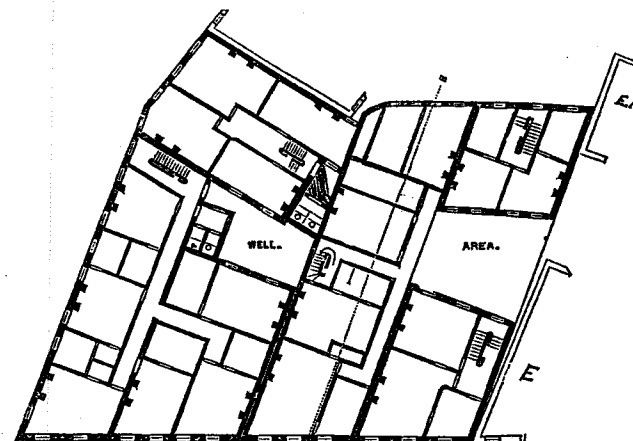


A SIXTH WARD FEVER-NEST.

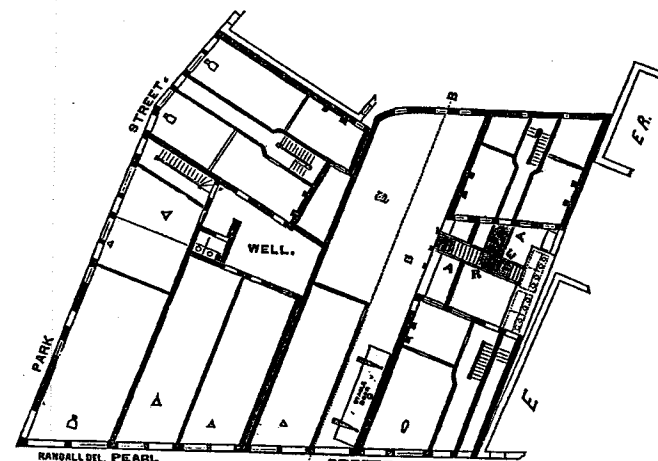
## STATISTICS OF MORTALITY.

Number of persons.	Number of families.	Number of deaths.	Rate of deaths per 1000 persons.	Ratio of deaths.	Ratio of sickness.	Number of persons sick.	Ratio of deaths of children under 10 years of age.	Number of children who have died during the year under 10 years.	Number of children under ten years of age.	Cubic feet of air to each person.
349	74	18	53 in 1000	1 in 19½	1 in 8½	115	1 in 6	9	54	About 200 by day and 230 by night.

\* The above wood-cut presents a sectional view of a fever-nest, as Dr. Harris terms such generators and hot-beds of typhus. Fifteen persons sick with typhus have been conveyed to hospital and elsewhere during the year. Lack of ventilation is the essential fault of the house and its seventy domiciles. Few of the bed-rooms have any



PLAN OF THIRD FLOOR.

PLAN OF FIRST FLOOR.  
A SIXTH WARD FEVER-NEST.

ventilation whatsoever, and nearly half of the other apartments look out exclusively upon dismal and fetid well-hole areas that are lined by the privies where three hundred and fifty persons attend the calls of nature. Preceding this note is a statistical statement which was taken the day of my last inspection of the place.

Internal ventilation is also very imperfect, sleeping rooms in many instances having no means of supplying air except through the narrow door which connects with living-rooms; they are also dark, and, in some instances, very damp.

House drainage is generally imperfect, the court-yards being in many instances below the level of the streets. The facilities for disposing of house-slops and garbage are very imperfect, and every thing is thrown into the street and gutters at all times of the day.

One-fourth of the number of buildings consists of rear tenant-houses, and these are generally in a much worse condition than the front houses.

**WATER-CLOSETS.**—The water-closets are located between the front and rear houses, many of them covered and surrounded with filth, so as not to be approachable; others so much out of repair as to endanger the life of those frequenting them.

Some of them are merely trenches sunken one or two feet in the ground, the fluids of which are in some instances allowed to run into the courts, stones and boards being sometimes provided to keep the feet out of the filth. One-half of the tenant-houses have no sewers connected with them; consequently the stench from all of the water-closets, during the summer, is absolutely unbearable and perilous.

**FIRE ESCAPES.**—Means of escape from fire are very imperfect, only one-half of the tenant-houses being provided with any such means of security from the fearful perils and dreadful fate that have too frequently befallen crowded tenant-houses.

**TENANT-HOUSE POPULATION.**—The most accurate returns for this year, 1864, show that the tenement population amounts to 23,000 in this district. The average age of this class of inhabitants is found to be about 23 years. There are 4,400 families, being an average of  $7\frac{1}{4}$  to each tenant-house.

**CELLARS AND BASEMENTS.**—There has been some improvement in this respect within the last few years, the cellar population having perceptibly decreased, yet 496 persons still live in damp and unwholesome quarters under ground. In some of them water was discovered trickling down the walls, the source of which was sometimes traced to the courts and alleys, and sometimes to the soakage from the water-closets. The noxious effluvia always present in these basements are of a sickening character.

Many of the cellars are occupied by 2 or 3 families, a number are also occupied as lodging-houses, accommodating from 20 to 30 lodgers. One near the corner of Elm and Worth Street, is now 15 or 16 feet below the level of the street. (The street having been raised 10 feet.) The lodging-house keeper complained to the Inspector that her business

has fallen off some since the street was raised. As might be expected the sickness rate is very high; rheumatic disease, fevers, strumous diseases, cholera infantum, &c., &c., running riot among the population. Indeed, in nearly every basement disease of some kind has been found peculiarly prevalent and fatal.

**DRAM-SHOPS.**—406 drinking shops exist in my inspection district. They are of the worst class, producing an immense amount of alcoholic disease, which in very many instances proves fatal. The social evils and personal suffering resulting from the same cause are everywhere witnessed in this district.

**BROTHELS.**—There are 29 brothels. They are the source of much sickness and death, the inmates being of the lowest class. Those in tenant-houses have not been enumerated in this estimation of the number of brothels. Prostitution has long been the most open and shameless of vices in the Sixth Ward.

**STORES.**—528 stores, drug shops, groceries, and markets, are found in my district.

**FACTORIES.**—There are 117 factories, consisting of type, lead pipe, shot, iron, sugar and confectionery, brass, pewter, box, stoves, pianoforte, &c., &c., in a fair sanitary condition.

**STABLES.**—There are 43 stables, which, owing to their location, are prolific sources of disease; some are located in the basement of tenant-houses, causing them to become fever-nests; others are situated between the front and rear of tenant-houses. The manure heaps connected with these stables are generally in a neglected condition.

**CHURCHES.**—There are 6 churches. One of them obstructs the external ventilation of the tenant-houses on City Hall Place. These church edifices are badly ventilated.

**SCHOOLS.**—There are 3 public schools. One is in a very faulty sanitary condition, 600 children being crowded on one floor that is very imperfectly lighted and unfit for the purpose. No playground is provided. The other schools are surrounded by tenant-houses; one of them interferes with the external ventilation of a large number of high tenant-houses in the neighborhood; 4 other schools exist, which come under the head Charitable Institutions.

**DISPENSARIES AND CHARITIES.**—The New York Dispensary, the oldest and most important medical institution of the kind in America, is located in this district, on the corner of Centre and White Streets. Nearly *fifty thousand sick poor* are annually treated in this noble institution, and, like the other dispensaries of the city, it furnishes the benefits of vaccination gratuitously to thousands of persons every year. There

are four other charitable institutions in the district. They are devoted to the care of poor children; these institutions are in good sanitary condition. In two of them much sickness has prevailed from time to time, occurring every one or two years; they are located on the spot that was once the "Collect," and are in close proximity to the great fever-nests and most insalubrious quarters of the city.

**THE "TOMBS."**—This famous penal institution is located on made ground, over what was once the centre of the Collect; it is in good sanitary condition. Between 41,000 and 42,000 persons pass through it to the various public institutions in the course of a year.

**BURYING GROUNDS AND VACANT LOTS.**—A negro burying ground formerly existed between Duane and Worth Streets; it is now 40 feet below the level of the street. There are eight vacant lots occupied as coal yards, storage for lumber, &c., &c., in fair sanitary condition.

**PREVAILING DISEASES.**—The following list and number of cases of severe sickness in this small district have been treated from the New York Dispensary or sent to hospital: 253 cases of fever, 29 cases of small-pox, and 48 cases of measles. These were all charity patients, and they indicate the prevailing diseases of the locality.

A large number of insalubrious quarters exist in this district, and in them the constant-sickness rate is large. During the summer months much diarrhoea, dysentery, and cholera infantum prevailed, but I have not had time to glean statements and collect statistics.

Purulent ophthalmia continually exists in this district; in a tenant-house on Leonard Street the Inspector has seen 17 cases recently. Several cases of typhus have occurred in the houses on Mission Place, the origin of which could be traced to recent immigrants.

The increase in the number of deaths for 1863 can be accounted for in two ways: First. By an increase in the number of febrile diseases occurring during that year. Second. By an increase in the number of the very lowest class of people who have come to reside in this ward from other wards; the more respectable of this low class having removed out of this district. The mortality among children is fearfully high, many families having lost all of their children; others 4 out of 5 or 6. The proportion of still-births, also, is almost unparalleled.

**REMEDIAL MEASURES.**—The sewerage of my district needs to be greatly improved. The accumulation of sewage, the return flow of sewer gases, and the obstruction of house-drains and local sewers, must be provided against; the culverts, the gutters, and the pavements require vigilant and skilful care, and all sources and conditions of local filth should be under the surveillance of faithful and fearless sanitary officials.

**POPULAR EDUCATION.**—Some method should be adopted to educate the people in sanitary matters, by printed and other instructions suitable for the purpose; and I would suggest that the assistance of all the clergy, the charitable institutions, and the benevolent ladies of New York, be sought to aid in teaching the unfortunate inmates of these abodes of poverty, the duties of life, by a system of domiciliary visitation, and advice in regard to their domestic welfare and sanitary condition. This system has been carried out in the poor districts of London with great success, and is one reason why the mortality in that great city is less than in the general average of country towns in England.

**TENANT-HOUSES.**—A law should be enacted to regulate the construction, and external and internal ventilation of these buildings; an Inspector being appointed to regulate this matter the same as in the case of unsafe buildings.

Those already constructed to be put in the best sanitary condition, by arranging ventilators and skylights over the stairways on the roof, making tin or iron flues connecting with every sleeping-room; the flues extending from the basement to the roof of the house. This improvement could be easily made without much expense.

**DRAM-SHOPS.**—As no law can stop the sale of liquor, a law should be enacted to regulate it. Any liquor-dealer selling or giving liquor to a person partially under its influence should be fined.

Institutions should be provided for those who are in the habit of using it to excess; and all who are in this condition, no matter what their position, when found in the streets should be sent to them, and if necessary retained there.

**BROTHELS.**—As no law can prevent them, laws should be enacted to control them, by imposing a fine, when disease is found among them. This would prevent one-half of the diseases arising therefrom.

**SMALL-POX.**—This disease, as we all know, can be almost entirely prevented by vaccination. Nearly all the cases that now occur are among young children who have not been vaccinated on account of the ignorance, superstition, or neglect of the parents.

**TYPHUS.**—This disease can be controlled, if not entirely eradicated, by proper sanitary measures. The filthy streets, courts, alleys, water-closets, and cesspools, should be cleaned, and the filth removed, sunken courts filled up, obstructed external ventilation also removed, internal ventilation improved by flues in every sleeping-room, ventilators and skylights to be placed over the stairways in every house. And to stop the progress or annihilate the virus of typhus in the tenant-houses of the city, there must be some limitation to the crowding and packing of given areas, and

domiciliary apartments must be in some way limited by sanitary regulations.

**EPIDEMICS AND LOCAL CAUSES.**—The seeds of disease exist everywhere in the Sixth District; and although removable and susceptible of sanitary control, they are yet uncontrolled, and at any time may spring into activity and a terrific life that shall only have the power and effect of death. Cholera, when it visits these shores again, will first break forth here *if proper sanitary measures be neglected*. The first appearance of cholera in the great epidemic of 1849, in this city, was in the houses Nos. 21 and 23 Baxter Street; it then spread to Nos. 8 and 10 Mulberry Street, and from thence to all parts of the city.

Typhus fever-nests exist in all parts of this district; and it has been traced from these nests to every ward in the city, spreading the disease not only in the worst localities, but into the homes of the industrious, the wealthy, and the highest classes of society. This disease is now on the increase, and if proper sanitary measures are not adopted to remove the predisposing and the infecting causes, we may again have an epidemic of that scourge.