PUBLIC HEALTH REPORTS

VOL. 48 FEBRUARY 10, 1933 NO. 6

FURTHER STUDIES ON THE PHARMACOLOGY AND NEUROPATHOLOGY OF CERTAIN PHENOL ESTERS

Interest in the problem of the pharmacologic action of phenol esters arose from the discovery that the wave of so-called ginger paralysis which occurred in many sections of the United States early in 1930 was due to one of the cresols in firm combination with phosphoric acid which had apparently been used as an adulterant. The experiments heretofore had indicated that the singularly specific action on the lower motor neuron exerted by orthocresol in combination with phosphoric acid was not shared by metacresol or paracresol in similar combination with phosphoric acid, and orthocresol alone could exert no such specific action.

An apparently new type of relationship between physiological action and chemical constitution thus presented itself. This is a matter of practical as well as theoretical concern, for some of the phenolic compounds used in therapeutics, such as phenyl salicylate and guaiacol carbonate, belong to the same general class as the orthocresyl phosphoric ester.

A report of recent studies, by United States Public Health Service investigators, on this problem of the relation of the chemical constitution of certain phenol esters to physiologic action and on the character of the nerve lesions produced in laboratory animals by these compounds has just been issued as National Institute of Health Bulletin No. 160.[1]

A series of 11 phenolic esters more or less closely related chemically to triorthocresyl phosphate were subjected to a pharmacological study for the purpose of correlating their behavior in the animal body with certain of their physicochemical properties, such as lipoid solubility and rate of hydrolysis *in vitro* and *in vivo*.

The results of this investigation disclosed that by altering the chemical constitution of the phenolic esters in certain directions it is possible to produce compounds of widely different pharmacologic action, their effects in the animal body varying all the way from the

[1] Further Studies on the Pharmacology of Certain Phenol Esters with Special Reference to the Relation of Chemical Constitution and Physiologic Action, by Maurice I. Smith, principal pharmacologist, E. W. Engel, special expert, and E. F. Stohlman, junior pharmacologist, National Institute of Health, U. S. Public Health Service; and the Histopathology of some Neurotoxic Phenol Esters, by R. D. Lillie, passed assistant surgeon, and Maurice I. Smith, principal pharmacologist, National Institute of Health, U. S. Public Health Service.

purely phenol-like action to the singular specific type of neurotoxic action marked by a long latent interval of "incubation period."

It has also been possible to effect certain variations in the specific neurotoxic action of some of these compounds by definite change in their chemical constitution. In this manner it has been possible to produce in experimental animals three distinct neurological syndromes by means of three different compounds, each affecting specifically certain well-defined physiological units of the nervous system. Thus the phosphoric ester of orthocresol (the "ginger poison") damages the lower motor neuron and produces the clinical picture of an uncomplicated type of toxic peripheral neuritis. The phosphoric ester of phenol produces in certain animal species a rapidly ascending flaccid paralysis with changes in the nervous system not unlike those of Landry's paralysis. A third neurotoxic compound, also characterized by a long latent interval, has been found in the phosphorous ester of orthocresol, this producing a neurological syndrome of spastic paralysis very similar to the phenomenon of decerebrate rigidity which has been long known to physiologists.

In the histopathologic investigations it is shown that the lesions produced by triphenyl phosphate are mainly a degeneration of the nerve cells in the acute type of poisoning and diffuse fatty degeneration of the myelin sheath of the peripheral nerves in the subacute types of poisoning, this lower motor neuron degeneration being of the same category as the more localized degeneration in triorthocresyl phosphate ("ginger") poisoning. The lesions produced by triorthocresyl phosphite are shown to consist of combined system degeneration involving ascending and descending tracts, in addition to the degeneration of the lower motor neuron, which is characteristic of triorthocresyl phosphate action.

THE NEW VENTILATION SYSTEMS OF THE SENATE AND HOUSE CHAMBERS OF THE CAPITOL, WASHINGTON, D. C.*

By LEONARD GREENBURG, *Sanitary Engineer*,[1] *United States Public Health Service*, and J. J. BLOOMFIELD, *Sanitary Engineer, United States Public Health Service*

In 1924, under resolution of the House of Representatives, a committee of five Members of the House was appointed by the Speaker to investigate the ventilation system in that Chamber. On request of the Architect of the Capitol, Mr. David Lynn, a survey of the system was made by the United States Public Health Service, the salient conclusions reached being as follows: [2]

---

* From the Office of Industrial Hygiene and Sanitation, U. S. Public Health Service.

[1] Now assistant professor of public health, Yale Medical School.

[2] Williams, R. C.: Report to Surgeon General of U. S. Public Health Service (Mar. 3, 1924) in regard to a study on the ventilation of the Hall of the House of Representatives, conducted by Assistant Sanitary Engineer Leonard Greenburg, Physiologist Frederick B. Flinn, Assistant Physical Chemist J. J. Bloomfield, and Associate Bacteriologist E. M. A. Enlows.

1. The Hall of the House of Representatives contained no carbon monoxide.

2. Bacterial pollution was of a minor character, consisting of the usual types of air bacteria having little or no bearing on the problem of ventilation.

3. The dust content of the air was found to be low, the actual number of dust particles being approximately the same as that usually found in homes and offices.

4. The carbon dioxide content of the Hall at no time exceeded 5.5 parts per 10,000 and averaged 3.8 parts. It was therefore concluded that sufficient air change was always taking place in the Chamber.

5. The most significant findings of this study showed the Hall to be subjected to overheating, a condition exceedingly difficult, if not impossible, to control.

6. Without means for the addition of water vapor to the atmosphere, it was impossible to maintain the moisture content of the air of the Hall at any desired point. Over three-quarters of the observations of relative humidity showed less than 30 per cent (winter).

Recommendation was made for strict regulation of the temperature of the incoming air so as to control the temperature of the Hall, and for the provision of satisfactory means to keep the relative humidity of the Chamber between 30 and 50 per cent at all times.

Objectives for new ventilation system.—From 1857, when the present House Chamber was completed, to 1928 the ventilation of the Chambers presented an almost continuous source of controversy. Following the report of the Public Health Service, and after deliberation, it was decided to replace the old systems in both the House and Senate Chambers (a fan supply and fan exhaust system, with updraft) by new systems capable of conditioning the air during both winter and summer. On request of the Architect of the Capitol, the Surgeon General of the Public Health Service, in 1927, called a meeting of a group of ventilation experts to establish the necessary requirements, the personnel being Prof. C.-E. A. Winslow, chairman, Frank Irving Cooper, A. N. Feldman, R. E. Hall, D. D. Kimball, F. R. Still, and Prof. A. C. Willard, with Sanitary Engineer Leonard Greenburg detailed to assist the board. There was formulated a series of objectives, which were included in circular letters by the Architect, sent to companies specializing in the manufacture and installation of ventilation systems.[3] The letter invited them to prepare plans, specifications, and estimates based on these objectives.

The committee believed that for summer conditions, the plant should be of sufficient capacity to be capable of maintaining in the halls during periods of maximum occupancy a temperature not in

[3] Congressional Record, First session of Seventieth Congress. Vol. LXIX, pt. 1, p. 1067 (Jan. 5, 1928).

excess of 75° F., and a relative humidity not in excess of 55 per cent with outside weather conditions of 95° dry bulb and 78° wet bulb. The plant should be capable of maintaining in the halls during the winter a temperature of 75° with a relative humidity of 30 to 50 per cent. These conditions should be produced without noticeable drafts and without noticeable odors in any part of the halls. The matter of dust and bacteria were not provided for in the requirements, for the reason that it was not regarded as of importance, and, in any case, would be taken care of by the operation of the plant.

The committee believed that such conditions could be realized only by a system operating on the downward principle, that is, with air flowing from the ceiling toward and out through the floor, with careful provision for proper diffusion.

It was also stated that the system to be installed should be provided with a complete equipment of indicating and recording devices to give indication and record of temperatures and humidities throughout the system and halls.

The ventilation committee stated that the temperatures and humidities to be maintained should be set from time to time by the appropriate committees of the Houses.

The Architect of the Capitol received bids for the design and construction of several systems of ventilation. At later meetings of the Surgeon General's committee the proposed provisions of the systems offered by the different contractors were compared item by item. As a result of these deliberations the contract was awarded to one of the bidders. Work was begun immediately and the installations were completed in December, 1928, for the House, and in August, 1929, for the Senate.

Description of new ventilating systems.—The new heating and ventilating systems of both halls are of the type generally known as the forced air or plenum supply fan-exhaust system. The complete process is as follows:

Outdoor air is brought to the air-conditioning equipment through the existing fresh-air tunnel. From here it passes through dehumidifiers, which wash the air and regulate its dew point. From the dehumidifiers, the air passes into a mixing chamber, where it is mixed with air returned from the hall (recirculated air). This mixture of air is drawn into the fans, which force it into the system of air ducts. These convey the air to inlets located in the ceiling of the halls and on the side walls of the cloakrooms. After passing downward, the air of the halls is exhausted through openings in the floor, from which a portion is brought to the air-conditioning apparatus to be used again, while the remainder is blown outdoors. Heating coils are located in the air circuit to supply the heat necessary to maintain a temperature of at least 75° in the halls during the coldest winter weather.

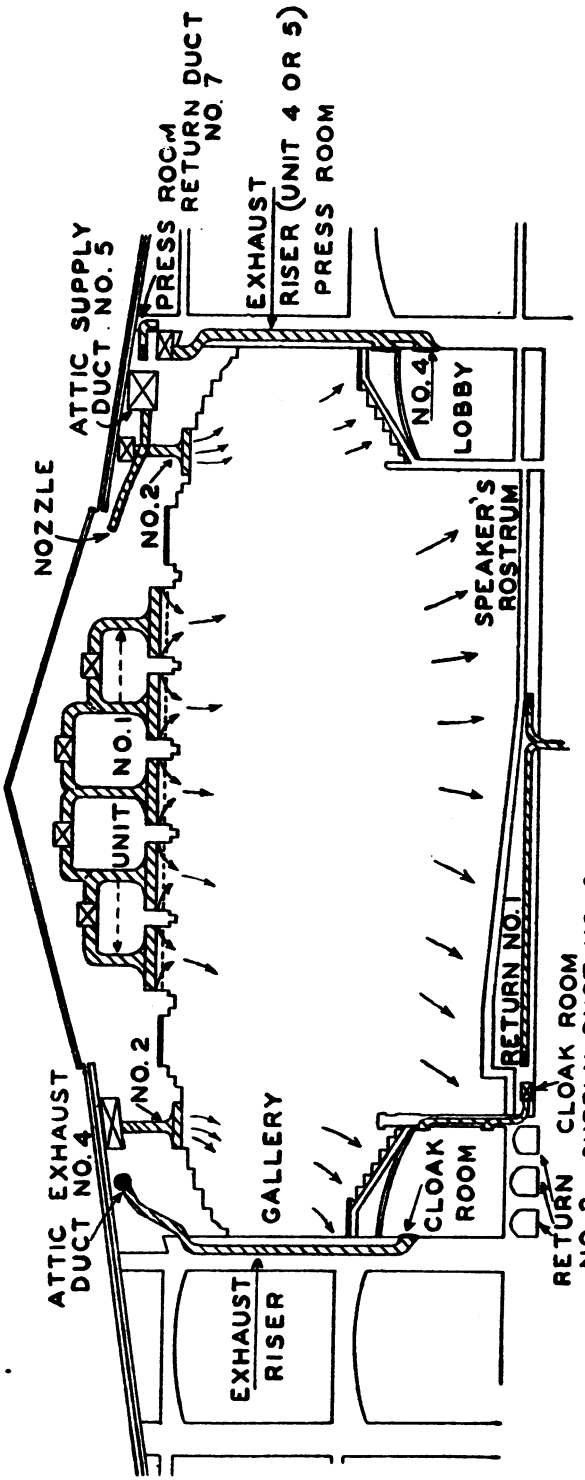

FIGURE 1.—Cross section of House Chamber

The heating and ventilation of the House of Representatives (which is similar to the system for the Senate) are accomplished by seven major ventilating units. The design is based on a maximum demand produced by 700 persons on the House floor, 900 persons in the gallery, and at the same time the consumption of 89,600 watts for lighting. The House chamber, including the galleries, is 139 feet long and 93 feet wide, with a maximum height of 36 feet. Besides this chamber, the space under the galleries occupied by the cloakrooms and the Speaker's lobby, the four press rooms back of a portion of the gallery, and the glass-covered attic over the chamber, are the only spaces in the building supplied by the system.

Units No. 1 and No. 2 are provided for the ventilation of the hall and gallery spaces. They supply a total of 72,000 cubic feet of air per minute.

The conditioned air is delivered by the fans into the ducts, which convey it to the attic above the ceiling of the hall. From here it passes into a large number of diffusion boxes, the long slotted openings of which are situated inconspicuously beneath the edges of the raised glass panels comprising the ceiling of the hall. The design of the diffusion boxes and their outlets was based on a series of full-scale laboratory studies. Each ceiling panel is provided with two of these air outlets situated on opposite sides of the panel. Their construction is such that the air streams from the opposite sides collide, merge, and diffuse downwards at low velocity to the floor level, whence they escape into a chamber below the floor. From this space the air is drawn back to the fan to be used again (recirculated air) or to be discharged out of doors.

Units No. 1 and No. 2 are essentially the same; No. 1, however, is designed to supply the central portion of the hall, while No. 2 supplies the gallery. The provision of such separate systems yields a very flexible design, which can take account of the variable occupancy of the House floor and gallery. Another difference between units No. 1 and No. 2 lies in the fact that in the latter a portion of the air after passing downwards through the gallery is exhausted by unit No. 4. This arrangement prevents air from spilling over the balcony to the main floor.

Air supply for the cloakrooms and lobby is furnished by unit No. 3. This unit is not provided with a separate air-conditioning apparatus, but instead draws 6,200 cubic feet of air per minute from the conditioning equipment of unit No. 1. The air is removed from the cloak rooms by unit No. 4, through registers located on the walls near the ceiling level, and discharged out of doors or into unit No. 5, for the attic. Unit No. 4 consists of an exhaust fan of 18,000 cubic feet per minute capacity. By the removal of a larger quantity of air from the cloakrooms than is supplied thereto by its supply fan, air is caused to

flow into the cloakrooms from the House floor. In this manner the smoke in the cloakrooms is effectually prevented from gaining access to the House floor.

Unit No. 5, located in the attic space, is provided for the purpose of either cooling this space during the summer or heating it in the winter. It is so arranged that it can draw air from three sources—first, from the same source as unit No. 4, that is, from the cloakrooms; secondly, from the attic space itself; and thirdly, from out of doors. Because of the high rate of heat exchange through the glass roof of the building, such special provisions are required to minimize heat loss. The provision of suitable attic temperatures also makes it possible to control the temperature of the air being supplied through the metal ducts in the attic to the House and gallery.

Unit No. 6 has been provided for the cooling of the condenser water used in the refrigerating machine. The water used in the refrigerating machine is broken up into spray in a spray chamber through which unit No. 6 draws 49,000 cubic feet of outdoor air per minute.

For the conditioning and ventilation of the air of the press rooms there is provided a separate unit capable of handling 7,000 cubic feet of air per minute. This unit (No. 7), situated in the attic, takes its supply of air from out of doors, completely washes and conditions it, and distributes the air into four press rooms, which are located at the rear of the press gallery.

It was the opinion of the committee, as well as of the contractor, that the use of variable speed controls on the fans might, under certain conditions, serve to upset the equilibrium of the system, and therefore the fans were provided with constant and unalterable speed control.

In a system such as the one at hand, the production of air at the desired temperature and humidity is achieved by dew-point regulation. The air is saturated with water vapor by passage through a spray of water at the proper temperature. The temperature of this spray is such that, when the air is later raised to the desired room temperature, it will then have the desired humidity percentage. For example, suppose it is desired to produce a conditioned atmosphere of 75° and 40 per cent relative humidity. The dew point [4] tables show that at 75° and 40 per cent relative humidity the dew point is 49°. The air therefore is sprayed with water at 49° temperature until saturated, after which it is heated to 75°, when it will have the desired relative humidity of 40 per cent.

The temperature of the refrigerated water used in the spray chamber is controlled by regulation of the refrigerating machine. It is, however, difficult to maintain the desired dew point solely by refrigeration regulation. Use is made, therefore, of the dissimilarity of the tempera-

[4] The temperature at which air is completely saturated with water (100 per cent relative humidity) is called the dew point.

tures and humidities of the outdoor and recirculated air. By slightly varying the proportions of the air from these two sources a constant dew point may easily be maintained. This is accomplished by the provision of a direct and a reverse acting thermostat placed in the spray chamber. These actuate the dampers which control the proportions of recirculated and outdoor air in the final mixture.

In order to regulate and maintain the desired temperature, a thermostat is also located in the return air duct leading from the hall and connected to a set of dampers which control the quantity of dehumidified air delivered to the system. In addition the thermostat is connected to the steam-heating coils in the recirculated air circuit. When the closing of the dampers regulating the air supply to the dehumidifier has not succeeded in preventing overcooling, the heating coils of the recirculation circuit are turned on and the air is warmed to the desired temperature.

The third controlling member in this ventilation system is a static pressure regulator located in the discharge side of the fan. This device is provided for the purpose of maintaining the delivery of a constant air volume to the building. If the thermostat controlling the volume of dehumidified air being supplied should close the dampers in front of the dehumidifier, the static pressure regulator would counterbalance this action by a proportionate opening of the recirculation air damper, thus delivering a total volume of air equal to that originally supplied. If the damper opening on the dehumidifier is increased, a reverse action would be produced by the static pressure regulator.

In order to prevent the water in the spray chamber from freezing, a double row of heating coils is placed in the air circuit at a point preceding the spray chamber. These heaters are controlled by a 2-step thermostat located in the outdoor air-supply circuit. In cold weather, at a temperature of 35° to 40°, the first row of these heaters goes into action, thus preventing the freezing of the coils. At about 20° the second row of heating coils begins to function.

The refrigeration of the water for the spray chambers is produced by a refrigerating machine operating with the refrigerant at all times under a vacuum. In this machine the refrigerant vaporizes and thereby exerts its cooling action in an evaporator. After leaving the evaporator, the refrigerant is pumped over to the condenser side of the machine, where it is condensed to the liquid state by means of the cooling water delivered from unit No. 6. The water used in the spray chamber of the dehumidifiers circulates about the tubes in the evaporator of the refrigerating machine. Here the water is cooled to the desired temperature and then pumped to the dehumidifiers, where it is sprayed into the passing air stream. The machine employed at the House of Representatives has a capacity equivalent to the cooling produced by 196 tons of ice daily.

In the design and construction of this system of ventilation care has been exercised to prevent the production of noise due to either the machinery or the flow of air in the ducts. Isolation pads with wooden framework have been placed under the fans and motors to which they are securely bolted. This framework is then set upon a thick cork pad which rests directly on a concrete foundation. Throughout the installation the production and propagation of noise through the duct work has been prevented by means of sound deadeners and soundproofing materials.

On all of the pipes conveying steam, insulation in the form of 85 per cent magnesia is provided. On all cold-water piping standard thickness of cork is used. Cork insulation is also provided on the outside of the dehumidifiers and cork covering and weatherproofing are provided on those air ducts which had to be located on the roof of the building.

In order that the engineer, stationed in the apparatus room, may at all times know the temperature of the air at various points throughout the building, a 16-point electric temperature recording apparatus is provided. The thermojunctions of this instrument are located at critical points in the system.

As the installation in the Senate Chamber is similar to that in the House, no detailed account of it is given in this paper.

Operating tests in the House Chamber.—Detailed studies of the operation of these systems were conducted. In general, they consisted in the determination of dry bulb temperature, relative humidity, air motion, and the quantity of carbon dioxide present in the atmosphere. These observations were made at selected test points in the various occupied spaces before, during, and after occupancy of the Chamber.

The first series of studies in the House of Representatives were made on the afternoon of January 3, 1929. Nine locations were selected as test points, 3 in the gallery, 3 on the House floor, and 1 each in the Speaker's lobby, the Democratic and the Republican cloakrooms. In this series one observation was made at each test point. The second series was made the next day, starting at 11 a. m., one hour before Congress convened. Three rounds of observations were made at each test point. The average results of the tests in the Chamber are given in Table 1.

TABLE 1.—*Summary of average observations, January 3 and 4, 1929*

Date	Location	Temperature °F.	Relative humidity per cent	Carbon dioxide (parts per 10,000)	Air velocity, feet per minute
Jan. 3, 1929	Gallery	72.5	34	5.3	33
	Floor	73.0	34	4.3	30
Jan. 4, 1929	Gallery	71.8	39	4.3	31
	Floor	72.4	37	4.0	46

An interpretation of these results is possible by use of the "effective temperature" scale, an empirically determined index dependent on the comfort sensations of human subjects. Effective temperature may be defined as that temperature of saturated air which, moving at a velocity of 15 to 25 feet per minute, would produce the same sensation of warmth or cold as that produced by the combination of temperature, humidity, and air motion under observation. The effective temperature chart was determined from a series of studies formulated by the American Society of Heating and Ventilating Engineers in which radiant heating was not employed and therefore applies to studies made in such a system as the one at hand. Although it does not differentiate between the relative amounts of heat lost by conduction, radiation, and evaporation, the use of this index is applicable in the present instance, since we are dealing with small changes in temperature and humidity very close to the optimum for comfort and not with conditions widely spread over the whole chart. As a result of a large series of studies, the degree of comfort associated with various effective temperatures was established for both winter and summer seasons. These comfort zones have been superimposed on the effective temperature chart,[5] a copy of which is reproduced in Figure 2.

If the average results of the floor observations of Table 1 are used to determine the degree of comfort from the effective temperature chart, it will be noted that the observations of both days yielded 91 per cent comfort on the warm side of the winter comfort zone; but it should be borne in mind that we are dealing with a group of persons who average middle age and many of whom, as a rule, desire a warm environment. Some of these persons are from the Southern States and are relatively more sensitive to cool conditions. The relatively higher air motion provided on the House floor (35 feet per minute as compared with the usual 15 to 25 feet per minute), as well as the absence of sources of radiant heating, also makes it desirable to keep the environment at a higher temperature than that ordinarily considered the optimum.

The first two series of tests in the House thus indicated that the system was capable of constantly maintaining the desired atmospheric conditions throughout the course of the entire day. In addition, the studies disclosed that at all times a sufficient air change was being provided. The studies of air velocity, on the other hand, indicated the existence, at certain points on the House floor, of high air velocities.

Baetjer [6] showed that the threshold limit for perception of air currents at the temperature maintained in the House Chamber, lies

[5] Yaglou, C. P., and Drinker, Philip: The Comfort Zone: Climate and Clothing. Jour. of Ind. Hyg., Vol. X, No. 10, p. 350, December, 1928.

[6] Baetjer, Anna M.: Threshold air currents in ventilation. Amer. Jour. of Hyg., Vol. IV, No. 6, p. 650, November, 1924.

between 15 and 51 feet per minute, depending on the point of the face whereon the air current impinges. The threshold limit for perception is 15 feet per minute on the eyes and 51 feet per minute on the cheeks. It seems advisable to choose a middle ground, and, accordingly, a velocity of 25 to 35 feet per minute has been selected as the desirable value.

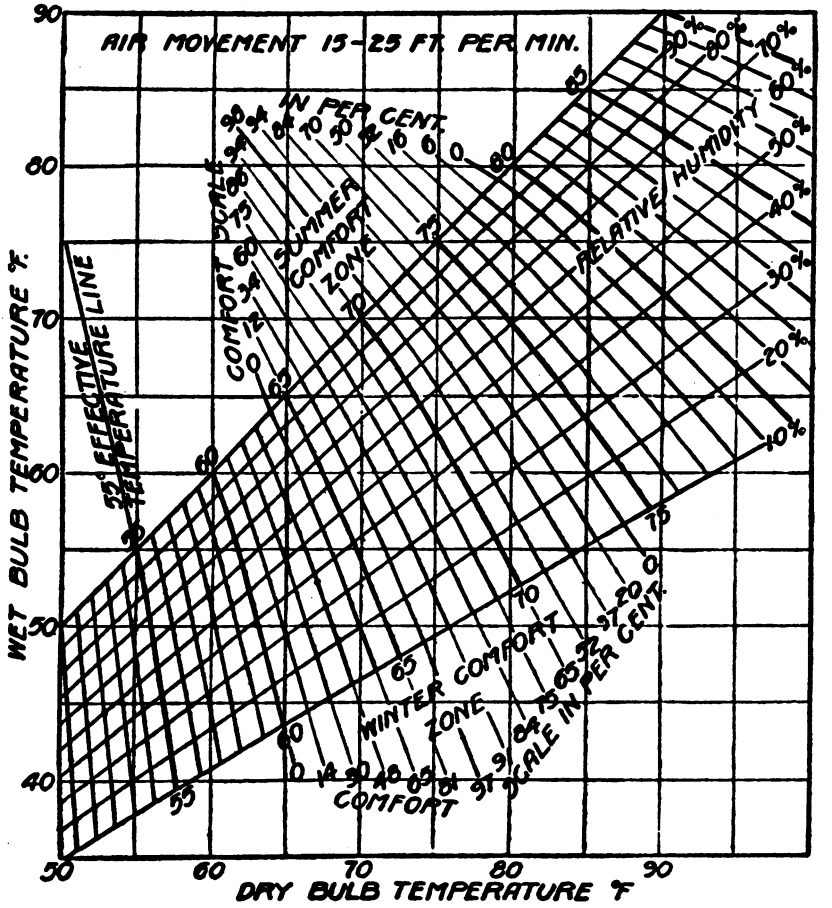

FIGURE 2.—Effective temperature chart with superimposed comfort zones

In view of the fact that the velocities found in certain parts of the chamber were well above this limit, it was decided that the problem of drafts required further attention. Accordingly, 37 different points on the floor of the hall were selected for further study. Observations on January 5, yielded an average air movement of 57 feet per minute, with a maximum of 118 feet per minute. In fact, 94 per cent of the observations yielded velocities in excess of 35 feet per minute. An iso-velocity chart was prepared from these observations. (Fig. 3.)

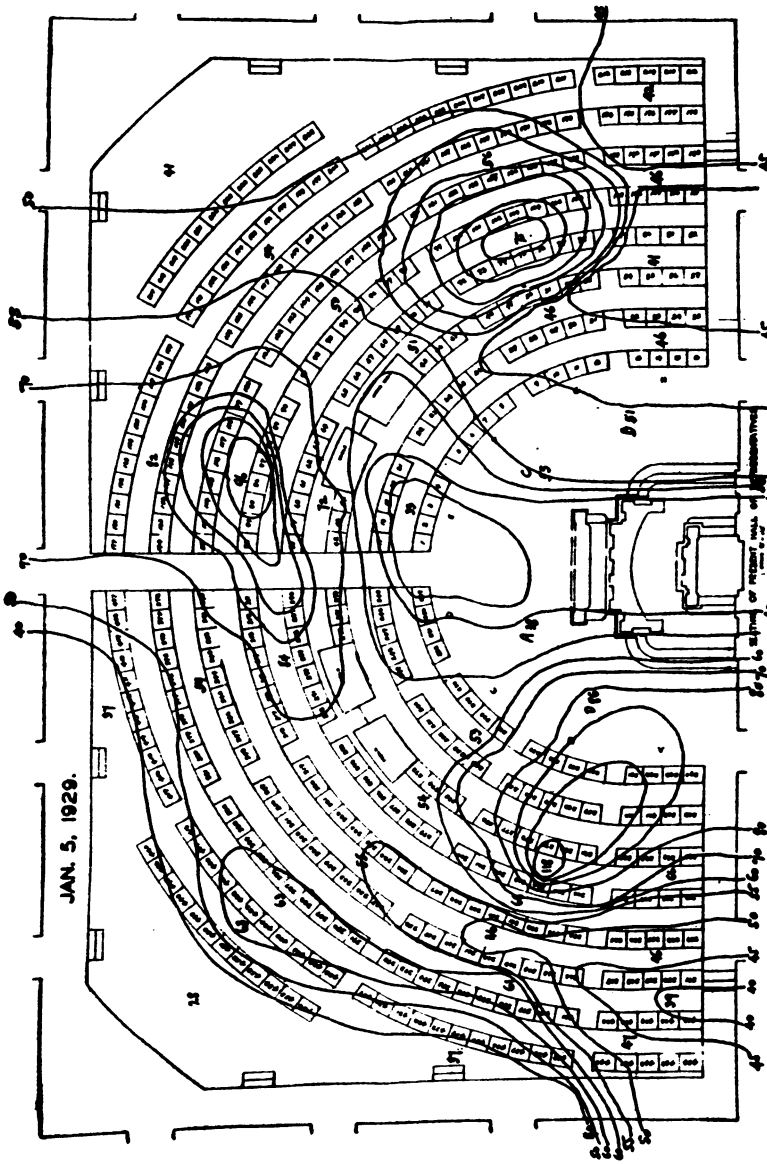

FIGURE 3.—Iso-velocity chart of House Chamber

This chart disclosed the presence of three distinct areas of high air movement.

It was apparent that steps should be taken to eliminate these high velocities, and, accordingly, the contractor made adjustments in the dampers of the attic ducts and in those of the return-air chamber. Further tests were made on January 7 and 8, which again disclosed the necessity for minor adjustments. This process was continued until tests showed that the problem of regulation of air movements was satisfactorily solved.

The preceding tests were all conducted during the winter months and did not provide information as to the functioning of the system in the summer. It was deemed essential to obtain summer operating data as well as to ascertain once again the distribution of air velocities on the floor. Accordingly, tests, identical with those previously described, were conducted on June 11 and 12, 1929. The minimum temperature in the chamber was 74°, the maximum 76°, and the average 74.8°. The relative humidity ranged from 50 to 64 per cent and averaged 59 per cent. These average results yielded an effective temperature of 71°, which corresponds with a 98 per cent degree of comfort for summer conditions. (Fig. 2.) The velocity results gave a minimum of 14, a maximum of 35, and an average of 27. It is obvious that the system was functioning in a highly satisfactory manner.

Three years later (April, 1932), a restudy of the ventilation system was made. The first step was to examine carefully the numerous pieces of apparatus and the record charts of the operating engineer, in order to note whether any changes had been made in the various ventilating units during the three years that had elapsed since the previous study. The next step was to conduct a detailed study of the ventilation conditions on the House floor. On April 12, 60 observations were made at the various test points on the floor of the hall of the House of Representatives. These observations began at 9.45 a. m. and terminated at 3.20 p. m., thus yielding results of ventilating conditions before and during the occupancy of the chamber. The results of these observations are summarized in Table 2.

TABLE 2.—*Summary of results of ventilation observations, April 12, 1932*

	Dry bulb temperature °F.		Per cent relative humidity		Air velocity in feet per minute		Per cent comfort	
	A. m.	P. m.	A. m.	P. m.	A. m.	P. m.	A. m.	P. m.
Minimum	72.0	71.0	40	37	8	15	----------	----------
Maximum	74.0	73.8	43	41	42	62	----------	----------
Average	72.7	71.8	42	38	24	30	86	95

[1] Warm side of winter comfort zone.

From this table it will be noted that the system of ventilation was maintaining a rather constant dry bulb temperature throughout the day. The minimum temperature was 71.0° (p. m.), and maximum 74.0° (a. m.), and the average temperature was found to be 72.7° in the morning and 71.8° in the afternoon. The relative humidity ranged from a minimum of 37 to a maximum of 43 and averaged 40 per cent for the entire day.

Further examination of the table shows that the degree of comfort associated with the atmospheric conditions, as determined from the comfort chart (Fig. 2), was 86 per cent comfortable in the morning and 95 per cent in the afternoon, when the House was in session. As discussed earlier in this report, it is our feeling that an environment corresponding to a degree of comfort between 84 and 91 per cent on the warm side of the comfort zone is one to be desired for persons of the average age of Members of the House.

The results of the air velocity studies yielded a minimum of 8, a maximum of 62, and an average velocity for the day of 27 feet per minute. In order to obtain a more complete picture of the velocity of the air currents on the floor of the hall, Table 3 has been prepared.

TABLE 3.—*Distribution of velocity observations by groups, April 12, 1932*

[Velocity in feet per minute]

Less than 20	20 to 24	25 to 29	30 to 34	35 to 39	40 and over	Total observations
16	12	10	10	6	6	60

From this table it is obvious that 48, or 80 per cent, of the velocity determinations are less than 35 feet per minute and that only 6 observations exceeded 40 feet per minute. These higher observations all occurred in the afternoon when the House was in session and in the vicinity of doors, at a time when they were being constantly opened and closed. In this connection it was noted that the cloak room doors are kept open throughout the session of the House of Representatives, a practice which tends to create localized drafts in the vicinity of these doors.

From these observations one may conclude that the air movement in the House Chamber is satisfactory.

Tests of ventilation system of Senate.—Similar series of tests conducted at different times in the Senate Chamber indicated that the system in the Senate Chamber was also functioning in an entirely satisfactory manner.

Throughout the course of these studies both before and after the installation of the new system the writers have received unfailing support from the Architect of the Capitol, to whom acknowledgment is made.

CONCLUSIONS

As a result of the study of the ventilation systems of the House and Senate Chambers, the following conclusions are reached:

1. The new ventilation system is capable of maintaining a desired temperature throughout the course of the whole day.

2. It is possible to regulate and maintain the desired moisture content of the air.

3. It is possible to maintain an atmosphere possessing a very high degree of comfort at all points in the Chambers.

4. Adequate air change is taking place in the Chambers at all times. It is certain, as a result of this, that body odors and carbon dioxide will never constitute a ventilation problem.

5. The variations in air motion at different points on the floors are within satisfactory limits and should serve to add to the comfort of the occupants of the Senate and House floors by the very reason of the slight variability that exists.

6. It is the conclusion of the investigators that the new systems of ventilation of the House and Senate Chambers are satisfactory, and that with careful maintenance and operation, atmospheric conditions in the Chambers should be beyond criticism.

COURT DECISION RELATING TO PUBLIC HEALTH

Death from cerebrospinal meningitis held compensable under Federal longshoremen's and harbor workers' compensation act.—(U. S. Circuit Court of Appeals, Ninth Circuit; Todd Dry Docks, Inc., et al. *v.* Marshall, Deputy Commissioner, et al., 61 F. (2d) 671; decided Nov. 7, 1932.) A vessel from the Philippine Islands arrived at Seattle with several cases of cerebrospinal meningitis among the steerage passengers. After the arrival of the ship, a pipe fitter, in pursuance of his employment, went on board and worked thereon for several days. A week after finishing such work he died of cerebrospinal meningitis, and an award under the Federal longshoremen's and harbor workers' compensation act in favor of his widow and minor child was upheld by the United States district court.

On appeal the question presented to the circuit court of appeals was whether the disease was the result of an injury within the meaning of the compensation act. Such act defined "injury" as follows:

> The term "injury" means accidental injury or death arising out of and in the course of employment and such occupational disease or infection as arises naturally out of such employment or as naturally or unavoidably results from such accidental injury, * * *.

The contention of the appellants was that the infection must be an occupational one, that is, that the phrase of the section dealing with

disease should be construed as though it read "and such occupational disease or [occupational] infection as arises naturally out of such employment." But the appellate court said that it saw no reason for thus limiting the plain language of the act and affirmed the action of the lower court, declaring that it was satisfied "that the death of the employee in the case at bar resulted from an infection arising naturally out of such employment and that Congress employed the phrase under discussion to set at rest the question which had been considered by the courts as to whether or not such an infection was the result of an accident or was an accidental injury compensable under the workmen's compensation laws."

DEATHS DURING WEEK ENDED JANUARY 21, 1933

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Jan. 21, 1933	Corresponding week, 1932
Data from 85 large cities of the United States:		
Total deaths	9,189	8,039
Deaths per 1,000 population, annual basis	12.9	11.5
Deaths under 1 year of age	697	622
Deaths under 1 year of age per 1,000 estimated live births [1]	60	52
Deaths per 1,000 population, annual basis, first 3 weeks of year	13.3	12.2
Data from industrial insurance companies:		
Policies in force	69,051,695	74,199,865
Number of death claims	17,168	15,011
Death claims per 1,000 policies in force, annual rate	13.0	10.6
Death claims per 1,000 policies, first 3 weeks of year, annual rate	11.5	10.1

[1] 1933, 81 cities; 1932, 78 cities.

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended January 28, 1933, and January 30, 1932

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended January 28, 1933, and January 30, 1932

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932
New England States:								
Maine	1	6	700	459	1	654	0	1
New Hampshire	----	1	1	----	----	30	0	0
Vermont	1	----	----	----	----	197	0	0
Massachusetts	30	66	111	35	130	319	3	0
Rhode Island	5	11	71	1	1	787	0	0
Connecticut	6	6	270	3	67	179	0	1
Middle Atlantic States:								
New York	71	142	[1] 138	[1] 39	1,550	1,200	1	6
New Jersey	31	32	230	16	413	115	1	5
Pennsylvania	121	160	----	----	564	1,589	2	10
East North Central States:								
Ohio	61	159	375	60	784	500	2	5
Indiana	50	53	107	57	6	106	3	12
Illinois	63	129	158	52	147	75	21	8
Michigan	28	46	64	11	492	223	2	2
Wisconsin	4	18	1,522	19	164	181	2	3
West North Central States:								
Minnesota	8	11	2	1	610	21	0	0
Iowa	10	19	----	----	----	4	1	0
Missouri	40	55	21	4	154	38	2	5
North Dakota	----	1	655	----	112	5	1	0
South Dakota	5	10	17	3	11	61	0	0
Nebraska	12	10	132	46	9	21	1	0
Kansas	24	47	350	16	104	43	2	2
South Atlantic States:								
Delaware	2	4	14	----	----	1	0	0
Maryland [2]	8	55	434	25	1	34	7	2
District of Columbia	6	18	5	1	2	----	1	2
Virginia	28	----	----	----	329	----	1	----
West Virginia	14	28	253	58	333	270	1	0
North Carolina	21	47	827	30	334	146	1	0
South Carolina	10	17	3,092	508	35	28	0	3
Georgia	7	21	676	84	1	5	0	1
Florida	7	13	183	2	18	9	0	0

See footnotes at end of table.

154326°—33——2

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended January 28, 1933, and January 30, 1932—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932
East South Central States:								
Kentucky	22	39	395	----	17	84	2	3
Tennessee	15	31	467	78	6	13	6	2
Alabama	15	24	312	72	5	5	2	2
Mississippi	1	20	----	----	----	----	0	1
West South Central States:								
Arkansas	7	7	645	27	8	2	1	0
Louisiana	16	46	124	19	24	20	0	1
Oklahoma [3]	29	32	554	119	----	120	1	0
Texas [4]	107	131	448	72	73	21	1	0
Mountain States:								
Montana	1	1	832	265	152	80	0	1
Idaho	7	----	1	----	9	1	0	0
Wyoming	----	----	----	4	17	2	0	0
Colorado	3	11	65	----	2	14	1	1
New Mexico	7	13	3	3	8	21	1	0
Arizona	12	----	22	32	1	2	0	2
Utah [2]	6	----	2	----	2	1	0	1
Pacific States:								
Washington	14	8	6	----	2	383	0	0
Oregon	5	2	243	121	34	23	1	0
California [4]	46	66	312	225	233	319	5	4
Total	987	1,616	14,839	2,567	6,965	7,952	76	86

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932
New England States:								
Maine	4	0	24	32	0	0	0	4
New Hampshire	0	0	51	30	0	0	0	3
Vermont	0	0	16	7	0	6	0	0
Massachusetts	0	0	378	499	0	3	5	3
Rhode Island	0	0	34	45	0	0	0	0
Connecticut	0	0	117	102	2	6	1	1
Middle Atlantic States:								
New York	3	7	823	965	0	4	8	21
New Jersey	0	1	307	220	0	0	3	5
Pennsylvania	0	0	961	617	0	0	2	23
East North Central States:								
Ohio	0	2	689	538	1	49	12	12
Indiana	1	0	129	117	5	25	5	1
Illinois	1	5	523	432	17	5	3	0
Michigan	0	2	476	331	0	3	2	10
Wisconsin	0	2	172	111	7	0	3	0
West North Central States:								
Minnesota	0	0	82	105	0	2	2	2
Iowa	0	0	36	67	31	81	4	2
Missouri	0	0	88	88	0	20	1	2
North Dakota	5	0	11	18	1	11	0	1
South Dakota	0	0	19	13	4	14	11	2
Nebraska	0	1	38	36	39	5	1	1
Kansas	1	0	64	67	0	3	0	2
South Atlantic States:								
Delaware	0	0	10	16	0	0	1	0
Maryland [2]	0	1	81	129	0	0	1	4
District of Columbia	0	0	23	18	0	0	1	0
Virginia	2	1	55	----	0	----	14	----
West Virginia	0	0	41	51	0	1	5	12
North Carolina	0	0	40	55	2	5	4	14
South Carolina	0	0	3	12	4	0	6	12
Georgia	0	0	16	17	1	0	6	11
Florida	0	0	8	4	0	2	2	3

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended January 28, 1933, and January 30, 1932—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932	Week ended Jan. 28, 1933	Week ended Jan. 30, 1932
East South Central States:								
Kentucky	1	0	54	108	0	4	0	23
Tennessee	1	0	51	62	0	16	2	17
Alabama	2	0	28	34	0	18	0	8
Mississippi	0	1	16	15	2	27	3	5
West South Central States:								
Arkansas	1	0	27	3	13	3	8	1
Louisiana	2	1	7	17	8	3	8	14
Oklahoma [3]	1	1	27	44	17	80	5	23
Texas [4]	0	0	68	62	32	16	8	12
Mountain States:								
Montana	0	1	7	49	0	0	1	0
Idaho	0	0	3	7	15	2	0	0
Wyoming	0	0	8	11	0	0	0	1
Colorado	0	1	25	38	0	6	0	0
New Mexico	0	1	12	11	0	3	1	1
Arizona	5	0	10	8	0	0	0	1
Utah [3]	0	1	9	9	0	0	0	0
Pacific States:								
Washington	0	0	32	45	15	12	5	2
Oregon	0	0	17	30	6	8	4	1
California [4]	3	1	204	123	23	8	9	1
Total	33	30	5,920	5,418	245	451	157	261

[1] New York City only.
[2] Week ended Friday.
[3] Figures for 1933 are exclusive of Oklahoma City and Tulsa.
[4] Typhus fever, week ended Jan. 28, 1933, 4 cases—3 cases in Texas and 1 case in California.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
December, 1932										
Alabama	6	160	25,656	66	7	12	2	164	6	15
Idaho	1	16	224		65		2	50	60	3
Illinois	60	292	992	3	254		6	1,756	5	45
Louisiana	5	89	22,361	59	12	13	2	40	22	42
Montana	1	5	15,788		1,289		1	55	7	6
New Mexico	1	57	2,492	1	3		0	85	0	10
Oklahoma [1]	1	148	9,622	24	8	2	2	173	11	14
Oregon		5	5,693		181		1	99	16	5
Rhode Island		8	60		19		0	159	0	1
Virginia	6	164	23,913	19	728	8	3	368	5	49
Wisconsin	3	39	9,011		1,070		4	288	11	11

[1] Exclusive of Oklahoma City and Tulsa.

December, 1932

Chicken pox:	Cases
Alabama	143
Idaho	59
Illinois	2,100
Louisiana	24
Montana	318
New Mexico	51
Oklahoma [1]	112
Oregon	207
Rhode Island	153
Virginia	389
Wisconsin	2,153

Dysentery:	Cases
Illinois (amebic)	1
Illinois (bacillary)	4
Louisiana	5
Oklahoma [1]	4
Dysentery and diarrhea:	
Virginia	56
Food poisoning:	
New Mexico	1
German measles:	
Illinois	14
Montana	40
Rhode Island	5
Wisconsin	10

Hookworm disease:	Cases
Louisiana	4
Impetigo contagiosa:	
Illinois	1
Montana	17
Oklahoma [1]	1
Oregon	75
Jaundice, epidemic:	
Oregon	1
Lead poisoning:	
Illinois	5
Lethargic encephalitis:	
Alabama	4
Illinois	11

Lethargic encephalitis—Continued.	Cases
Louisiana	1
Montana	3
Oregon	1
Ludwig's angina:	
Illinois	1
Milk sickness:	
New Mexico	1
Mumps:	
Alabama	143
Idaho	50
Illinois	187
Louisiana	2
Montana	18
New Mexico	19
Oklahoma [1]	23
Oregon	12
Rhode Island	34
Wisconsin	304
Ophthalmia neonatorum:	
Illinois	6
New Mexico	1
Rhode Island	1
Paratyphoid fever:	
Idaho	2
Illinois	1
Virginia	1
Puerperal septicemia:	
Illinois	3
New Mexico	1

Rabies in animals:	Cases
Illinois	13
Louisiana	2
Rocky Mountain spotted fever:	
New Mexico	1
Scabies:	
Montana	2
Oklahoma [1]	2
Oregon	63
Septic sore throat:	
Idaho	3
Illinois	25
Louisiana	3
Montana	21
New Mexico	1
Oklahoma [1]	42
Oregon	4
Rhode Island	1
Virginia	27
Tetanus:	
Illinois	2
Louisiana	6
Oklahoma [1]	1
Trachoma:	
Illinois	1
Louisiana	1
Oklahoma [1]	2
Trench mouth:	
Oklahoma [1]	2
Oregon	2

Trichinosis:	Cases
Illinois	2
Tularæmia:	
Illinois	76
Oklahoma [1]	2
Virginia	56
Wisconsin	1
Typhus fever:	
Alabama	14
Louisiana	3
Undulant fever:	
Illinois	1
Montana	2
Oklahoma [1]	1
Virginia	1
Vincent's angina:	
Illinois	38
New Mexico	1
Oklahoma [1]	1
Oregon	5
Whooping cough:	
Alabama	142
Idaho	1
Illinois	197
Louisiana	57
Montana	11
New Mexico	20
Oklahoma [1]	110
Oregon	18
Rhode Island	123
Virginia	443
Wisconsin	238

WEEKLY REPORTS FROM CITIES

City reports for week ended January 21, 1933

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Maine:											
Portland	0	17	1	1	12	1	0	1	0	11	47
New Hampshire:											
Concord	0	-------	2	0	4	0	0	0	0	0	19
Nashua	0	-------	0	0	0	0	0	0	0	0	-------
Vermont:											
Barre	0	-------	0	1	0	0	0	0	0	0	4
Burlington	0	-------	0	0	0	1	0	0	0	1	6
Massachusetts:											
Boston	13	39	3	34	59	86	0	12	0	64	306
Fall River	1	1	2	1	12	9	0	3	0	13	51
Springfield	1	4	1	7	1	8	0	1	0	4	31
Worcester	5	-------	0	7	9	28	0	2	0	6	59
Rhode Island:											
Pawtucket	0	-------	0	0	0	0	0	0	0	0	22
Providence	4	7	7	0	13	11	0	2	0	18	65
Connecticut:											
Bridgeport	0	66	2	8	7	13	0	0	0	5	50
Hartford	0	21	0	3	3	1	0	0	5	5	17
New Haven	0	17	3	0	13	10	0	0	0	8	63
New York:											
Buffalo	3	-------	5	6	27	48	0	10	0	56	135
New York	54	312	68	417	300	231	0	109	4	86	1,718
Rochester	1	61	3	2	12	27	0	1	0	10	104
Syracuse	1	104	2	5	7	28	0	0	0	4	53
New Jersey:											
Camden	3	-------	0	0	6	15	0	0	0	0	27
Newark	6	104	3	129	11	21	0	10	0	18	148
Trenton	1	24	1	7	6	28	0	1	1	0	35
Pennsylvania:											
Philadelphia	5	62	16	16	54	182	0	37	0	4	531
Pittsburgh	6	6	3	8	10	44	0	9	0	22	150
Reading	0	-------	0	45	9	15	0	0	0	3	23
Scranton	0	-------	-------	1	-------	20	0	-------	0	0	-------
Ohio:											
Cincinnati	7	-------	7	0	11	16	0	9	0	10	142
Cleveland	4	152	4	0	14	114	0	14	0	18	206
Columbus	5	4	4	157	7	8	0	2	0	1	87
Toledo	1	3	3	107	5	31	0	6	1	5	81

[1] Exclusive of Oklahoma City and Tulsa.

City reports for week ended January 21, 1933—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Indiana:											
Fort Wayne	5		2	0	3	3	0	3	0	0	26
Indianapolis	1		1	11	15	11	0	2	0	25	
South Bend	0		0	0	0	2	0	0	0	8	12
Terre Haute	2		0	0	1	7	0	1	0	0	18
Illinois:											
Chicago	9	17	11	148	57	258	0	32	1	26	700
Springfield	2		0	0	4	10	0	1	2	0	33
Michigan:											
Detroit	18	19	11	137	28	136	0	22	0	102	280
Flint	1	68	5	1	6	6	0	2	0	2	38
Grand Rapids	0		4	1	3	8	0	0	0	40	29
Wisconsin:											
Kenosha	0	1	1	0	0	5	3	1	0	3	9
Madison	2			11		1	0		0	2	
Milwaukee	1	7	6	3	14	40	0	7	0	21	119
Racine	0	3	3	0	1	5	0	1	0	1	23
Superior	0		1	1	0	0	0	1	0	0	6
Minnesota:											
Duluth	0		1	1	3	0	0	0	0	23	21
Minneapolis	1		4	333	9	33	0	2	0	3	118
St. Paul	1	2	2	14	8	13	0	2	0	47	63
Iowa:											
Des Moines	6			0		3	3		1	0	38
Sioux City	1			0		1	0		0	1	
Waterloo	1			0		1	0		0	1	
Missouri:											
Kansas City	3		2	74	18	35	0	5	0	1	105
St. Joseph	4		2	0	11	4	0	0	0	0	48
St. Louis	17	4	1	5	7	20	0	11	0	2	259
North Dakota:											
Fargo	0		3	0	0	1	0	0	0	0	9
Grand Forks	0		0	3	0	0	0	0	0	0	
South Dakota:											
Aberdeen	0		0	0	0	0	0	0	0	0	
Nebraska:											
Omaha	5		0	3	18	8	1	1	0	0	71
Kansas:											
Topeka	1		1	10	12	0	0	0	0	0	31
Wichita	0		6	1	7	2	0	1	0	1	45
Delaware:											
Wilmington	0		0	0	4	5	0	0	0	0	29
Maryland:											
Baltimore	4	95	8	2	42	73	0	5	0	14	222
Cumberland	0		0	0	1	0	0	0	0	0	17
Frederick	0		0	0	0	0	0	0	0	0	
District of Columbia:											
Washington	10	8	2	2	24	22	0	14	0	2	176
Virginia:											
Lynchburg	0		0	1	1	2	0	0	2	4	18
Norfolk	0	6	0	1	5	3	0	3	0	2	25
Richmond	1		3	1	8	5	0	3	0	9	67
Roanoke	1		3	33	2	2	0	0	0	0	19
West Virginia:											
Charleston	1	2	1	0	0	0	0	2	[1] 1	0	15
Huntington	2		0	21	0	2	0	0	0	0	
Wheeling	0		1	212	2	1	0	0	0	4	16
North Carolina:											
Raleigh	0	2	0	0	1	2	0	1	0	0	7
Wilmington	0		0	18	1	0	1	1	1	2	21
Winston-Salem	0	15	0	0	3	1	0	0	0	6	11
South Carolina:											
Charleston	0	488	1	0	4	0	0	1	0	0	31
Columbia	1		1	0	16	1	0	4	0	1	106
Georgia:											
Atlanta	5	44	3	0	9	1	0	4	2	18	73
Brunswick	0		0	0	0	0	0	0	0	0	1
Savannah	2	38	4	0	2	3	0	0	0	0	34
Florida:											
Miami	0	2	3	0	1	0	0	3	1	1	21
Tampa	4	5	5	0	0	1	0	3	0	1	30

[1] Nonresident.

City reports for week ended January 21, 1933—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Kentucky:											
Ashland	1	20	0	1	0	2	0	0	0	1	-------
Lexington	0	7	0	2	5	1	0	3	0	0	19
Louisville	4	13	2	0	4	14	0	1	0	3	68
Tennessee:											
Memphis	1	-------	8	0	5	4	0	4	0	1	75
Nashville	0	-------	9	0	7	3	0	3	0	0	51
Alabama:											
Birmingham	1	16	3	0	4	4	0	5	0	7	66
Mobile	0	-------	0	0	0	0	0	2	2	0	20
Montgomery	1	2	-------	0	-------	1	0	-------	0	0	-------
Arkansas:											
Fort Smith	0	-------	0	0	0	2	0	0	0	0	-------
Little Rock	2	-------	0	1	2	1	0	1	0	0	5
Louisiana:											
New Orleans	10	8	4	2	11	5	0	9	1	13	171
Shreveport	0	-------	0	0	2	1	0	1	0	0	25
Oklahoma:											
Muskogee	0	6	-------	0	-------	2	0	-------	0	0	-------
Tulsa	0	-------	-------	0	-------	0	0	-------	0	2	-------
Texas:											
Dallas	13	7	7	7	7	6	1	3	0	1	73
Fort Worth	7	-------	4	8	6	5	2	1	1	0	40
Galveston	2	-------	0	1	6	4	0	0	2	0	17
Houston	10	-------	3	21	10	3	0	3	1	0	75
San Antonio	5	-------	7	1	4	0	0	1	0	0	60
Montana:											
Billings	0	-------	0	0	0	0	0	0	0	0	9
Great Falls	0	-------	2	37	2	0	0	1	0	1	12
Helena	0	47	0	0	0	0	0	0	0	0	6
Missoula	0	50	0	0	1	2	0	0	0	0	4
Idaho:											
Boise	0	-------	0	5	2	0	4	0	0	0	9
Colorado:											
Denver	3	76	7	3	11	15	0	7	0	0	89
Pueblo	0	-------	3	0	3	0	0	0	0	1	13
New Mexico:											
Albuquerque	1	-------	0	0	1	4	0	6	0	0	19
Arizona:											
Phoenix	1	-------	3	1	9	3	0	4	0	0	34
Utah:											
Salt Lake City	0	-------	1	0	2	5	0	2	0	0	46
Nevada:											
Reno	0	-------	0	0	0	0	0	1	0	0	6
Washington:											
Seattle	0	2	-------	1	-------	4	0	-------	0	3	-------
Spokane	0	-------	-------	0	-------	1	0	-------	0	0	-------
Tacoma	0	-------	0	0	2	5	1	0	0	0	21
Oregon:											
Portland	1	7	0	1	5	4	8	2	0	0	87
Salem	0	11	-------	4	-------	1	0	-------	0	0	-------
California:											
Los Angeles	25	122	13	82	30	56	32	21	0	25	365
Sacramento	1	1	1	0	2	3	0	9	0	3	38
San Francisco	2	133	8	3	14	6	0	10	0	56	187

City reports for week ended January 21, 1933—Continued

State and city	Meningococcus meningitis		Poliomyelitis cases
	Cases	Deaths	
Massachusetts:			
Boston	1	0	0
Springfield	1	1	0
New York:			
New York	6	3	0
Ohio:			
Cincinnati	1	1	0
Indiana:			
Indianapolis	1	2	0
Illinois:			
Chicago	13	6	0
Michigan:			
Flint	1	0	0
Minnesota:			
Duluth	0	1	0
Minneapolis	0	1	0
Iowa:			
Sioux City	1	0	0
Missouri:			
St. Joseph	2	1	0
St. Louis	1	1	1
Maryland:			
Baltimore	1	0	0
Virginia:			
Norfolk	0	0	1
North Carolina:			
Wilmington	1	1	0
Tennessee:			
Memphis	0	1	0
Nashville	2	0	0
Louisiana:			
New Orleans	1	0	0
New Mexico:			
Albuquerque	0	1	0
Washington:			
Seattle	1	0	0
Oregon:			
Portland	1	0	0
California:			
Los Angeles	0	1	1

Lethargic encephalitis.—Cases: Philadelphia, 1; Pittsburgh, 1; Columbus, 1; Detroit, 2.
Dengue.—Cases: Charleston, S. C., 4.
Pellagra.—Cases: Winston-Salem, 1; Charleston, S. C., 4; Savannah, 1; New Orleans, 1; San Francisco, 1.
Typhus fever.—Cases: Baltimore, 1; Montgomery, 1; Los Angeles, 1.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended January 14, 1933.—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended January 14, 1933, as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis		2		1	1					4
Chicken pox	4	42	1	227	434	34	20		27	789
Diphtheria		3	2	26	17	7	2	1		58
Erysipelas				5	3				1	9
Influenza	1	88		23	610	57	253		307	1,339
Lethargic encephalitis				1	1					2
Measles		26	11	75	705	2		11	14	844
Mumps		2			246	18	1	1	20	288
Paratyphoid fever									1	1
Pneumonia		18			24		1		10	53
Poliomyelitis				4						4
Scarlet fever		5	13	56	79	13	12	1	11	190
Smallpox					1		7			8
Tuberculosis			10	60	43	7		1	18	139
Typhoid fever			2	15	8	2		1		28
Undulant fever					2					2
Whooping cough				142	147	36	4	4	26	359

Ontario Province—Communicable diseases—Five weeks ended December 31, 1932.—The Department of Health of the Province of Ontario, Canada, reports certain communicable diseases for the five weeks ended December 31, 1932, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Actinomycosis	1		Paratyphoid fever	1	
Cerebrospinal meningitis	1	1	Pneumonia		196
Chicken pox	1,506		Poliomyelitis	1	1
Diphtheria	81	4	Scarlet fever	362	2
Erysipelas	3		Septic sore throat	1	1
German measles	25		Smallpox	13	
Gonorrhea	302		Syphilis	140	
Influenza	1,284	22	Trench mouth	5	
Jaundice	1		Tuberculosis	225	54
Leprosy	1		Typhoid fever	12	2
Lethargic encephalitis	2	1	Undulant fever	6	
Measles	2,334	9	Whooping cough	374	3
Mumps	563				

CZECHOSLOVAKIA

Communicable diseases—November, 1932.—During the month of November, 1932, certain communicable diseases were reported in Czechoslovakia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	8	1	Puerperal fever	65	20
Cerebrospinal meningitis	6	2	Scarlet fever	3,265	30
Diphtheria	5,465	246	Trachoma	126	----
Dysentery	463	66	Typhoid fever	1,273	103
Malaria	11	----	Typhus fever	2	----
Paratyphoid fever	19	1			

DENMARK

Influenza—Copenhagen.—Cases of influenza have been reported in Copenhagen, Denmark, as follows: Week ended December 24, 1932, 168; week ended December 31, 1932, 268; week ended January 7, 1933, 550; week ended January 14, 1933, 1,933 cases.

GREAT BRITAIN

Influenza.—Deaths from influenza were registered in the 118 great towns of England and Wales and the 16 principal towns of Scotland as follows:

Week ended—	118 great towns, England and Wales	16 principal towns, Scotland	Week ended—	118 great towns, England and Wales	16 principal towns, Scotland
December 17, 1932	85	32	January 7, 1933	681	88
December 24, 1932	120	112	January 14, 1933	1,041	111
December 31, 1932	303	120	January 21, 1933	----	108

The following table shows the death rates per 1,000 population in towns of Great Britain during the five weeks ended January 14, 1933, compared with the death rates for the week ended January 16 last year.

Deaths (all causes) per 1,000 population, annual basis

	Week ended—					
	Dec. 17, 1932	Dec. 24, 1932	Dec. 31, 1932	Jan. 7, 1933	Jan. 14, 1933	Jan. 16, 1932
118 great towns of England and Wales	13.2	13.1	14.1	16.4	18.7	16.1
Greater London	12.6	11.5	12.2	14.4	17.0	16.7
Great towns in southeastern area	13.2	12.1	12.9	15.4	18.1	17.0
Great towns in northern area	13.5	14.1	14.9	17.4	19.9	15.7
Great towns in midland area	12.4	13.2	16.2	18.5	19.1	14.9
Great towns in eastern area	10.7	11.0	12.6	12.7	15.1	14.6
Great towns in southwestern area	16.0	14.9	13.1	11.9	15.5	16.3
Great towns in Wales and Monmouthshire	14.2	15.2	12.2	12.6	15.3	16.4
Liverpool	15.3	15.2	16.9	21.2	22.7	13.7
Bristol	11.0	11.4	10.4	11.0	17.1	12.7
Sixteen principal towns of Scotland	16.7	21.1	20.7	19.5	19.9	15.4
Glasgow	19.8	28.4	27.0	19.3	18.2	15.8

YUGOSLAVIA

Communicable diseases—December, 1932.—During the month of December, 1932, certain communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	51	11	Poliomyelitis	14	1
Cerebrospinal meningitis	6	1	Sepsis	9	4
Diphtheria and croup	1,564	187	Scarlet fever	379	17
Dysentery	58	13	Tetanus	14	10
Erysipelas	182	9	Typhoid fever	997	158
Measles	428	8	Typhus fever	15	2
Paratyphoid fever	42	3			

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

(NOTE.—A table giving current information of the world prevalence of quarantinable diseases appeared in the Public Health Reports for January 27, 1933, pp. 101–112. A similar cumulative table will appear in the Public Health Reports to be issued February 24, 1933, and thereafter, at least for the time being, in the issue published on the last Friday of each month.)

Cholera

Philippine Islands.—During the week ended January 28, 1933, 31 cases of cholera with 20 deaths were reported in the Province of Leyte, Philippine Islands.

Plague

Hawaii Territory.—A plague-infected rat was reported January 5, 1933, and another January 18, 1933, at Kukaiau, Hamakua District, island of Hawaii.

A plague-infected rat was reported January 16, 1933, at Omaopio, about 12 miles from Kahului, island of Maui.

Smallpox

China—Canton.—During the week ended January 21, 1933, 151 cases of smallpox were reported at Canton, China.