

cerine was added to the agar medium. Glycerine, as we have shown,¹ is a strong dehydrating agent. The good growth of *B. Tetanus* finally obtained, therefore, has a particular significance.*

1. Nicholas Kopeloff and Sterne Morse. Studies on atmospheric moisture requirements of bacteria.

I. Water vapor tension. Proceedings of Society for Experimental Biology and Medicine, 1921, 808-810.

2. Gates, F. L. and Oliitsky, P. K. Factors influencing anaërobiosis with special reference to use of fresh tissue. The Journal of Experimental Medicine, 33, 1921, 61-68.

SUMMARY

The method described for the anaërobic cultivation of bacteria in Petri dishes is:

1. Simple.
2. Inexpensive.
3. Efficient in establishing anaërobiosis.
4. Easy to manipulate.
5. Uses stock apparatus.

*We wish to thank Mr. E. J. Kennedy for his assistance.



REPORT OF THE COMMITTEE ON BATHING PLACES

Read before the Sanitary Engineering Section of the American Public Health Association at the Fifth Annual Meeting, New York City, November 17, 1921, and adopted by vote of the Section.

THE Committee on Bathing Places presents herewith its third progress report. At the San Francisco meeting a discussion of our second report indicated the desire of the members present that this Committee obtain definite information as to the methods employed at different bathing places for washing and disinfecting suits and towels, and also, that an investigation be made to determine the extent and prevalence of infections which may be conveyed by means of swimming pools and other bathing places.

An endeavor has been made to obtain definite information along both of these lines during the past year. While the Committee has obtained much valuable information concerning the methods employed in handling suits and towels, this information is as yet not sufficiently complete for presentation in this report.

We have attempted to obtain information as to the extent and prevalence of diseases which may be conveyed by means of bathing places from a large number of physicians whom we believed might be in a position to furnish information of value. To this end a questionnaire was prepared in which the following questions were asked:

1. Do you consider public bathing places (swimming pools, beaches, etc.) an important factor in the transmission of diseases?
2. If so, what diseases?
3. State briefly circumstances regarding any particular cases of disease with which you have been connected, which you feel reasonably certain were contracted at a bathing place.
 - a. From the water.
 - b. From the suits and towels.
4. Do you consider the method and care of laundering bathing-suits and towels of greater or less importance than the quality of swimming pool water, in so far as disease transmission is concerned?
5. Do you consider that the possibility of drowning or injury due to falls or collision at a swimming pool is of greater or less importance than the transmission of infection?
6. Following is a list of infections sometimes claimed to be readily transmissible by swimming pool water or bathing suits. State briefly your opinion as to the importance or non-importance of these diseases in the consideration of sanitation of bathing places.

Typhoid fever
Gonococcus infection
Syphilis
Ringworm
Dysentery
Colds
Pink Eye
Boils

In all about 2,000 copies of this questionnaire were sent out by the several members of the Committee. Owing to a slight misunderstanding among the dif-

ferent members as to the procedure to be followed, there was some difference in the list of persons in the different states to whom this questionnaire was addressed. In the eleven states north and east of Washington, D. C., the questionnaire was sent to all physicians specializing in ear, eye, nose, throat and skin diseases; in the other states it was addressed to all eye, ear, nose and throat specialists and health officers. Owing to the slight discrepancy in the list of persons from whom questionnaires were obtained in different parts of the country, the results are perhaps not strictly comparable. It is the intention of the Committee to send out additional questionnaires to the health officers and skin disease specialists who were omitted in the first canvass, and in a later report to submit a full detailed tabulation of the information obtained from the various sources.

A total of 627 replies to our questionnaires had been received from 41 states and the territory of Hawaii up to the time this report was prepared. In a number of instances physicians stated that they did not feel competent to express an opinion on any of the points enumerated. Furthermore, many physicians answered certain questions, but stated frankly that their experience did not qualify them to answer the remaining questions. In all, 571 replies were received in which one or more of our questions were definitely answered. Because of the large and complicated mass of information received the Committee has not yet, in the limited time

available, been able to thoroughly classify and tabulate it. We feel, however, that the information already obtained is of such great importance that we present a preliminary summarization of the replies as follows:

In reply to our question 1, enumerated above, 550 opinions were expressed. Of these, 384, or 70 per cent, were to the effect that bathing places were an important factor; 143, or 26 per cent, were to the effect that they were not important; while 23, or 4 per cent, of the physicians were in doubt.

In reply to our question 4, 500 opinions were expressed. Of these, 190, or 38 per cent, considered the quality of water the most important consideration; 156, or 31.2 per cent, considered the sanitation of suits and towels was more important; and 154, or 30.8 per cent, were to the effect that both were of equal importance.

In reply to our question 5, 439 opinions were received. Of these 283, or 65 per cent, considered danger of infection the most important consideration; 114, or 26 per cent, considered danger of drowning or accident more important; and 42, or 9 per cent, considered both were of equal importance.

In question 6 the physicians were asked to express an opinion on the importance or non-importance of bathing places as means of transmitting certain diseases frequently attributed to them. The tabulated results of expressed opinions are shown in the following table:

	Number of definite opinions expressed	Number expressing no opinion	Number of physicians expressing definite opinions as to importance of bathing places.			
			Important		Not important	
			Number	Per cent*	Number	Per cent*
Typhoid	277	301	153	55	124	45
Gonococcus	293	285	155	53	138	47
Syphilis	278	300	116	42	162	58
Ringworm	256	322	152	59	104	41
Dysentery	240	338	113	47	127	53
Colds	318	260	223	67	95	33
Pink eye	324	254	249	77	75	23
Boils	291	287	181	62	110	38

*Represents percentage of number of definite opinions expressed.

Our question 2 asked what diseases the physician considered might be transmitted, and in question 3 he was asked to report cases of different diseases he had observed in his practice which had been definitely traced or might be attributed to water, or suits, or towels at a bathing place. The answers to this question have brought out a surprising amount of information, which is shown in detail in the following table:

	No. of physicians who consider disease important	No. of physicians reporting cases observed
<i>Eye Infections</i>		
Non-specified and miscellaneous	26	9
Pink eye	249	73
Conjunctivitis	136	77
Ophthalmia	3	3
Pneumococcus infections	3	2
Trachoma	14	5
<i>Ear Infections</i>		
Non-specified and miscellaneous	50	37
Otitis Media	145	129
Mastoiditis	27	19
Meningitis	5	5
Otomycosis	1	1
<i>Nasal Infections</i>		
Non-specified and miscellaneous	31	15
Colds	223	35
Coryza	6	3
Rhinitis	25	24
Sinus infections	72	71
Ethmoiditis	1	1
<i>Throat Infections</i>		
Non-specified and miscellaneous	15	8
Tonsilitis	21	13
Bronchitis	5	3
Pharyngitis	7	6
Laryngitis	4	3
<i>Skin Infections</i>		
Non-specified and miscellaneous	36	9
Boils	182	25
Furunculosis	42	32
Impetigo contagiosa	27	19
Molluscum contagiosum	4	4
Dermatitis venenata	3	1
Fungoid infections	4	2
Eczema	9	9
Scabies (Itch)	18	11
Ringworm	152	24
Pediculosis	6	5
<i>Venereal Diseases</i>		
Gonococcus infections including eyes	155	31
Syphilis	116	11
<i>Gastro-Intestinal Diseases</i>		
Non-specified and miscellaneous	3	1
Typhoid and paratyphoid	155	18
Dysentery	113	7
<i>Miscellaneous Diseases</i>		
Influenza	5	2
Tuberculosis	6	6
Lobar pneumonia, articular	1	
Rheumatism, pyorrhoea	1	
Alveolarus, pituriasis	1	

The most significant and important information obtained from our replies has been reports of epidemics of various diseases which, from the information supplied by the reporting physicians, may be considered reasonably authentic. Seven different physicians report epidemics of conjunctivitis, and 6 others epidemics of skin diseases, 4 of these being epidemics of furunculosis, 2 of impetigo contagiosa, 2 of molluscum contagiosum and 1 of eczema. Two physicians reported epidemics of middle ear infection which, from the history submitted, were undoubtedly attributed to infection of the water at the bathing places. Two other physicians reported epidemics of tonsilitis and pharyngitis, and one reported an epidemic of nasal sinus infection in which all evidence points to bathing water as the origin. One of the members of the Committee also reports an epidemic of typhoid fever in a camp for boys which was unquestionably traced to bathing in polluted water.

It is very seldom that fatal cases of any disease outside of typhoid, perhaps, have been attributed to bathing place infection. One physician, however, reports a fatal case of mastoid infection and 4 other physicians report a number of fatal cases of meningitis following infections of the nose or ear passages.

The list of diseases reported above include a number for which there are at present no methods for detection in water. It seems to your Committee that such methods are greatly needed, in order that the occurrence of the causative agents of these diseases may be detected in water and the effectiveness or non-effectiveness of our methods of sanitary control demonstrated. We would, therefore, respectfully recommend that the question of devising such methods be referred to the Laboratory Section for consideration.

GEORGE W. SIMONS, JR.,
Chairman.

RALPH HILSCHER.
HARRY F. FERGUSON.
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