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PUBLIC HEALTH VALUES
A FEW MODERN
SANITARY FALLACIES

BY

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PUBLIC HEALTH VALUES— A FEW MODERN SANITARY FALLACIES

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New York City spends, through its Health Department, about \$120,000 a year on the inspection of its milk supply; for the year 1912 the city appropriated, for the purpose of keeping its streets clean, over \$7,400,000. The first expenditure was applied to an exceedingly important and vital phase of public health work, but it is hard to show that the \$7,400,000 expended for street cleaning and waste removal was of much direct health value. This is not meant to be in any respect a disparaging contrast; it is not intended to advocate dirty streets, nor to urge the expenditure of *less* money for refuse removal—probably more should be spent than at the present to accomplish worthwhile results. It is admitted that indirectly, at least, such factors in our environment are of more or less importance in effecting our general welfare. Even though it were of no importance from the point of view of health, the requirements of aestheticism and of decency justify the larger expenditure. This is an age in which the mass of people are exceedingly enthusiastic and to some degree hysterical about health. By those at all familiar with health problems, the value of a non-infected milk supply is appreciated. The number of lives sacrificed to the cause of filthy milk each year is enormous. Is it not rather strange that New York City should spend one-sixtieth as much on the protection of its milk supply as on refuse removal? Is it not in some part due to the widespread misunderstanding of the relative values of the factors under discussion? Is it not the result of the persistence in the minds of the people of the superstitions arising from the barbarous (though quite recent) period when disease

was credited to emanations from garbage dumps and filth accumulations? Is it not due in some part to an under estimation of the frequently fatal significance of the tuberculosis or typhoid germ-laden, though often innocent-appearing, bottle of milk?

Of course it is not necessary to go down to New York City for examples illustrative of this method of health and pseudo health expenditures. Here in Auburn in 1913, the health appropriation was, I believe, \$12,320. Of this \$7,000 or fifty-seven per cent. was spent on garbage removal, leaving only \$5,000 for such measures as the control of communicable diseases, anti-tuberculosis work, infant welfare work, etc. Now it is very pleasant to have the garbage removed and it is not very decent to have it lie around, but the removal or non-removal of it has very little influence on our morbidity or mortality rates. If we have here only \$12,000 that can be spent on health work then it would seem wise to find the funds necessary for garbage removal somewhere else than in the health appropriation.

It is becoming widely recognized that the physical welfare of the nation is fundamental if future growth along any line is not to be abortive. The people are fast awakening to the value of public health work and to the necessity for spending money in order to get results. "Public health is purchasable," and so is public decency. Both are worth having; both are expensive. In any case, the people should know for what their money is spent and what the returns are likely to be. An expenditure that is made for the preservation of decency or for the enforcement of honest methods, should not be disguised as a health measure.

At the present time health appropriations, or at least appropriations for work done under the direction of health departments, although still meagre, are on the increase, and now is an exceedingly crucial time in the expenditure of these public funds. It is especially necessary to spend them wisely and to spend them where they will do the most good. There are thousands of things that ought to be done, and thousands of things the modern health department would like to do. It is not possible to do them all at once and since there must be a selection of activities,

it is essential that those things be done first which are most worth while ; which promise the biggest returns ; which will prevent the most sickness ; which will act most strongly as a health conserving agent.

The aroused interest in health activities and the resulting increase in the amount which communities are willing to spend is paralleled by an increased responsibility resting upon those having the directing authority in the expenditure of health funds. The necessity for a judicious administration is bringing to a close the period of the political doctor. There is a demand for trained men, and several schools in this country alone are doing what they can to meet this demand. These men, who are making health work a profession, need the backing of an intelligent public opinion. They are trained to know the most important channels of health work. They often find it difficult to resist the pressure exerted by those who insist, either maliciously or misunderstandingly, on the misdirection of health appropriations, to ends not absolutely worthless, but relatively unimportant. There is a striking contrast between genuine health movements and those measures which, although supported by arguments not completely fallacious are, many of them, stimulated by a not entirely disinterested propaganda, and to say the least, do not encourage the truest conservation of now available resources.

It is possible here to point out only the few most important conflicting claims upon the theoretical health budget. The difference between health and decency has been touched upon. The two fields have much in common. Healthful things are always decent ; decency is sometimes healthful. There are more significant problems than this, and more vital ones, to be found in the supposed health field. It is true that in most progressive cities street cleaning and refuse disposal are following plumbing inspection, nuisance abatement, and other allied municipal activities out of the health department and into other municipal departments where they more logically belong. In most cities, however, the health department budget still includes large sums covering other activities, the wisdom of which, as health measures,

is doubtful, in the light of modern knowledge about disease transmission and sickness prevention.

One activity somewhat allied to refuse removal is sanitary inspection. In the year 1911 the Department of Health of the City of New York spent \$129,100.93 on general sanitary inspection. There is no doubt that most of this was worth while, particularly that part which goes to enforce the sanitary code regarding fly breeding and fly infecting nuisances, and the elimination of excrement in general. There is also no doubt that a great deal of relative over-emphasis is placed on the sanitary surveys, sanitary clean-ups, etc. During the same year New York City spent \$28,167.72 on infant milk stations. Since the establishment of the milk stations in New York City and the broadening out of the Health Department infant welfare activities the death rate among infants under one year (rate per thousand births) has fallen from 153.7 to very nearly 100. This is a saving of thousands of lives—nearly 7,000 in the last year, theoretically, at least—and yet in contrast to the amount of money which accomplishes this, the city spends a much larger sum directed in part, at least, to the cleaning up of chicken coops, the removal of dead dogs or the abating of nuisances originating largely in the minds of uniformed or neurasthenic individuals. Clean chicken coops, clean courtways and clean yards are desirable, but from a *relative* standpoint, are they worth what they cost? Is not the conflict here between a generalized and somewhat hazy expenditure of money, the health returns from which are, to say the least, doubtful, and on the other hand, the direction of the funds along a very definite and effective health line? Apropos of this point, Dr. Charles V. Chapin, Superintendent of Health, Providence, R. I., may be quoted* as follows:

“In New England most of the garbage is fed to swine. This usually causes some nuisance, but ought not to cause much. I have never learned that it is a menace to health. Yet there is a

*“How Shall We Spend the Health Appropriation?” American Journal of Public Health, March, 1913.

constant pressure on our cities to adopt a more 'sanitary' method of disposal by cremation or rendering. This usually entails a heavy additional expense. If the new method is sanitary and there is plenty of money, well and good. But if children still die from lack of antitoxin, or cannot get good milk, or perish from lack of doctors' or nurses' care, is it not better to feed the pigs a little longer?"

To come back to our own state, the City of Rochester in 1911 appropriated \$67,494 for health work. Out of this \$3,994 was spent for sanitary inspection while a sum amounting to only \$414 more or \$4,408 was devoted to milk stations which, as we know, are tremendous factors in the preservation of infant life and in the reduction of our infant and general mortality rates. During 1911, as we have stated before, New York City spent \$28,000 on milk stations, so that comparatively at least, the \$4,408 spent by Rochester in this field is a very excellent showing. It is in comparison with the amount spent on sanitary inspection, both expenditures coming from the health budget, that the sum is open to criticism. The irrationality is relative rather than absolute.

The public is eager to invest money in health. As a health investment the returns from sanitary inspection, plumbing inspection, food inspection, street cleaning, refuse removal, etc., will be meagre and in the end are likely to prove unsatisfactory unless we have reached the point where the public is able to make value-judgments in health matters and understands the relative significance of the different expenditures. At the present time such returns may tend to destroy popular confidence in the health movement as a whole. These measures are in strict contrast to such measures of real vital importance as the elimination of contagious disease; the supplying of milk free from tuberculosis, typhoid, dysentery and diphtheria; the manufacture and administration of diphtheria antitoxin, smallpox and typhoid vaccines; the development of vital statistics; the encouragement of sanitary research, etc.

In the preceding paragraph, food inspection has been included among those health activities which are of comparatively small

importance in the general health field. On account of the present widespread agitation for the enactment and enforcement of food regulations, this problem is of especial interest. The present conflict in the realm of sanitary food values is exceedingly strenuous and might be said to be almost ludicrous, were it not for the immense amount of energy and enthusiasm which the struggle misdirects. On the one hand, there is a group of pseudo-health experts, claiming that the food problem is by far the most important phase of present day health work. These poorly trained or misinformed individuals spend their energies in exaggerating the dangers from food adulteration and preservation. They accredit all sorts of evil results consequent to the cold storage of food and to the exposure of raw foods in stores. Health departments are maliciously incriminated for not enforcing the law against misbranding and against short weight. As a matter of fact, chemical analysis has shown that most preservatives are only slightly, if at all, harmful. They may have impaired the health of a few individuals; rarely they may have caused a death. It is perfectly obvious that the people should not buy adulterated, misbranded, preserved, short weighed, cold storage, or any other kind of food, without knowing what they are buying. It is also just as obvious that compared with real health problems, these things are of very slight significance from a health point of view, and in theory, at least, in the majority of instances should be handled by the Department of Police.

As economic problems, these food questions are of supreme importance. As health measures, is any city justified in spending, *out of the health budget*, one-third as much on food inspection as it does on milk inspection, as does the City of New York? (Permit me here to apologize for the frequent references to New York City. It is in that field that I am working at present and am consequently more familiar with it.) Here again it is not the amount that is objected to,—it is the proportion. Undoubtedly our food supply should be supervised, and it will cost more than is spent at present to do it efficiently. On the other hand, the bad effects of food preservatives and cold storage are strikingly insignificant in

contrast to the results of a combination of bad milk and ignorant mothers. During the summer of 1910 these two were very important factors in the deaths of 54,266 babies under two years from diarrheal disease in the United States, 9,740 of which were New York State babies. The fatality claims of even the wildest food propagandist are insignificant compared with these losses. At the same time a similar relationship probably holds true for morbidity.

Cold storage has occupied another prominent place as a battle ground. Great amounts of food have been destroyed, largely because of the length of the time in storage. Much material in storage has been condemned either because of this time factor, which in reality is not a safe criterion, or because of the presence of the "deadly" colon bacilli. In many instances the highest scientific authorities had declared this material to be not only harmless, but as useful for food as it had ever been. The colon bacillus, except by a few of the food "scientists," is universally known to be perfectly harmless.

Thus the food protagonists create sanitary straw men. The energy they waste in this endeavor is equalled only by the energy expended on the part of the opposing group to overthrow these straw men. In order to combat the wasteful tendencies of the food destroyers, all possible arguments are brought to bear, showing the necessity of food conservation and the growing scarcity of public food supplies. Cold storage is praised as a tremendously important food conserving factor, as indeed it would be if the industry were under proper governmental control, and if it were operated as a public service and not for private financial gain. This is a point which does not seem to occur to those presumably the exponents of food conservation. Neither does it occur to them when emphasizing the necessity for avoiding wastes in food that an economic and social method of collecting, transporting and distributing food would be a thousand times as effective in counteracting the high cost of living as all of the other comparatively petty measures sometimes suggested.

The exciting struggle continues over minor points of difference to the neglect of the really important food problems. In the first place, it is important that the police authorities be trained to enforce the regulations concerning food adulteration, short weighing, etc. Eventually this burden should be entirely removed from the health authorities. In the second place, proper emphasis should be placed on the economic importance of an efficient and reasonable method of control of the manufacture, collection, distribution, storage and sale of food. This problem is of immensely more importance than the question of adulteration, misbranding and preserving. Finally, there is one phase of the food problem which is of genuine sanitary significance. It is undoubtedly true that much of the secondary transmission of disease is a result of food contamination. This contamination may take place in the stores and public places, but more frequently occurs in the homes. The theories of disease emanations, of the aerial transmission of disease, and of infection by fomites, have gone by the board in epidemiology, and in their place sanitarians have become interested in the problems of secondary and contact infections. The chronic disease carrier has become a factor of great importance. It is essential that there should be no contact between the disease carrier in a family and the food of the other members of the family. There is danger when food is handled by any person in the incubation stage of, sick with, or convalescing from any contagious disease. In New York City, for instance, there is no doubt that a large percentage of the typhoid cases are of secondary origin. There is also no doubt that many of these cases are the result of food infection. In a recent investigation of the typhoid situation in New York City it was found that in seventy-five per cent. of the cases the same person in the family nursed the patient and cooked the food for the rest of the family. This suggests a food problem of real importance, and one which can be met only by education, more efficient means of isolation and quarantine, a more comprehensive system of public health nursing, and possibly a greater hospitalization of cases.

Another illustration of this same discrepancy is illustrated by the expenditures of various municipal departments for plumbing inspection. Although the more enlightened cities have relegated this activity to other departments, the great majority of the health budgets have to cover large amounts still devoted to this non-health activity. Let us take a few local examples:

Albany appropriated in 1913, \$26,000 for health and spent over ten per cent. of it, or \$2,800 for plumbing inspection.

Syracuse spends \$3,100 out of a total of \$80,000 on plumbing inspection and at the same time maintains only two milk stations for a population of 140,000 people.

Elmira appropriated \$6,000 for health and spent \$1,200 for plumbing inspection; at the same time Elmira is credited with having no school inspection. This \$1,200 spent on pipes and drains would be immensely more effective if devoted to the removal of defects in human plumbing, particularly the adenoids and tonsils of school children. It is a contest between soil pipes and wind pipes with the odds all in favor of the non-human variety.

Turning to the more vital problem of communicable disease, epidemics of diphtheria or other contagious affections are observed to occur from time to time among school children and other groups, the origin of which is sometimes difficult to discover. Recently a serious epidemic of this character was accredited to the pencils which were collected every evening and distributed promiscuously to the pupils the next day. A few diphtheria carriers in a group of this kind (and the greater proportion of school children have virulent diphtheria bacilli in their throats or nasal passages sometime during the school year), might soon sow the seed for a widespread outbreak. In any case, the damage is done early in the epidemic and the infection is usually direct from child to child; that is, contact infection. Very frequently, however, it is the custom to disinfect the school building or the school rooms after the children have been quarantined. This is certainly "locking the barn after the horse is stolen," particularly in the light of the fact that the diphtheria organism

is exceedingly short-lived and rapidly attenuated when compelled to carry on a saprophytic existence. This brings up for brief discussion one of the most striking and expensive modern health fallacies, namely, disinfection as it is ordinarily practiced. No greater farce is more universally perpetuated than the expensive and foolish comedy of terminal disinfection of the utensils, the homes and the buildings after contagious disease. In the year 1908 New York City spent \$55,369.41 for disinfection and fumigation, or 1.62 of its health appropriation. During 1911 Rochester devoted to cleaning and disinfection \$2,580 or 1.26 of its appropriation for that year. The Health Department of New York annually does over 100,000 fumigations and disinfections.* The folly of this procedure, as ordinarily carried out, is fully known to everyone at all familiar with the facts. There is little attempt to make the fumigation really effective, though when actually necessary it can be made so. It is admitted that its value is purely psychic. It is done to comply with an unintelligent and uneducated public opinion which demands it. There is very little evidence to show that with the exception of the occurrence of smallpox, of some comparatively rare disease, and possibly of a fulminating and exceedingly careless case of tuberculosis, the process is entirely useless and exceedingly wasteful. More than this, it is a dangerous procedure, because it perpetuates a superstition concerning the transmission of disease, and directs the attention of the family and of the people at large away from the real dangers. An organism coming directly from the body of a person suffering with a contagious disease is immensely more dangerous than is a greatly weakened and probably dead organism lying on a chair or under the bureau in the room where the patient was sick. People should be educated about the dangers of disease transmission and contact infection during the

*The amount expended for this purpose in New York City in 1913 was \$22,885.03; during the fiscal year 1910-1911 the number of fumigations made was 51,507; the number of disinfections 58,551.

sickness of the patient. A great deal could be accomplished along this line if some of the energy and money which is now employed in terminal disinfection were properly directed. The experience in Providence, R. I., has shown the folly of disinfection after scarlet fever and diphtheria, in some periods there being an actual reduction in the rate of recurrence of the disease with the cessation of disinfection. If it is unnecessary in these diseases, it is equally useless after measles and whooping cough. The omission of disinfection after measles in New York City for a short time a few years ago was without effect on the prevalence of the disease. As Dr. Chapin, of Providence, has said:

“A spark in the dry grass should be stamped out at any cost, but it is useless to waste time in extinguishing the smouldering flames left here and there as the line of fire is sweeping across the prairie.”

It is impossible at the present time to make a hard and fast distinction between things which are of great importance and those which are of no importance in health work. It may be possible to suggest a classification, incomplete in many respects, made up of two groups, into the first of which would be placed the things of greater importance, while the less directly important measures would be included in the second group. This would be not only incomplete,—there would be also inevitable overlapping. Much of the work that would be included in such a summary should be done at the present time by other departments than the Health Department, such as, for instance, the Department of Education, the Department of Labor, the Department of Public Works, or the Department of Police. Such a classification for the average New York State city might be somewhat as follows:

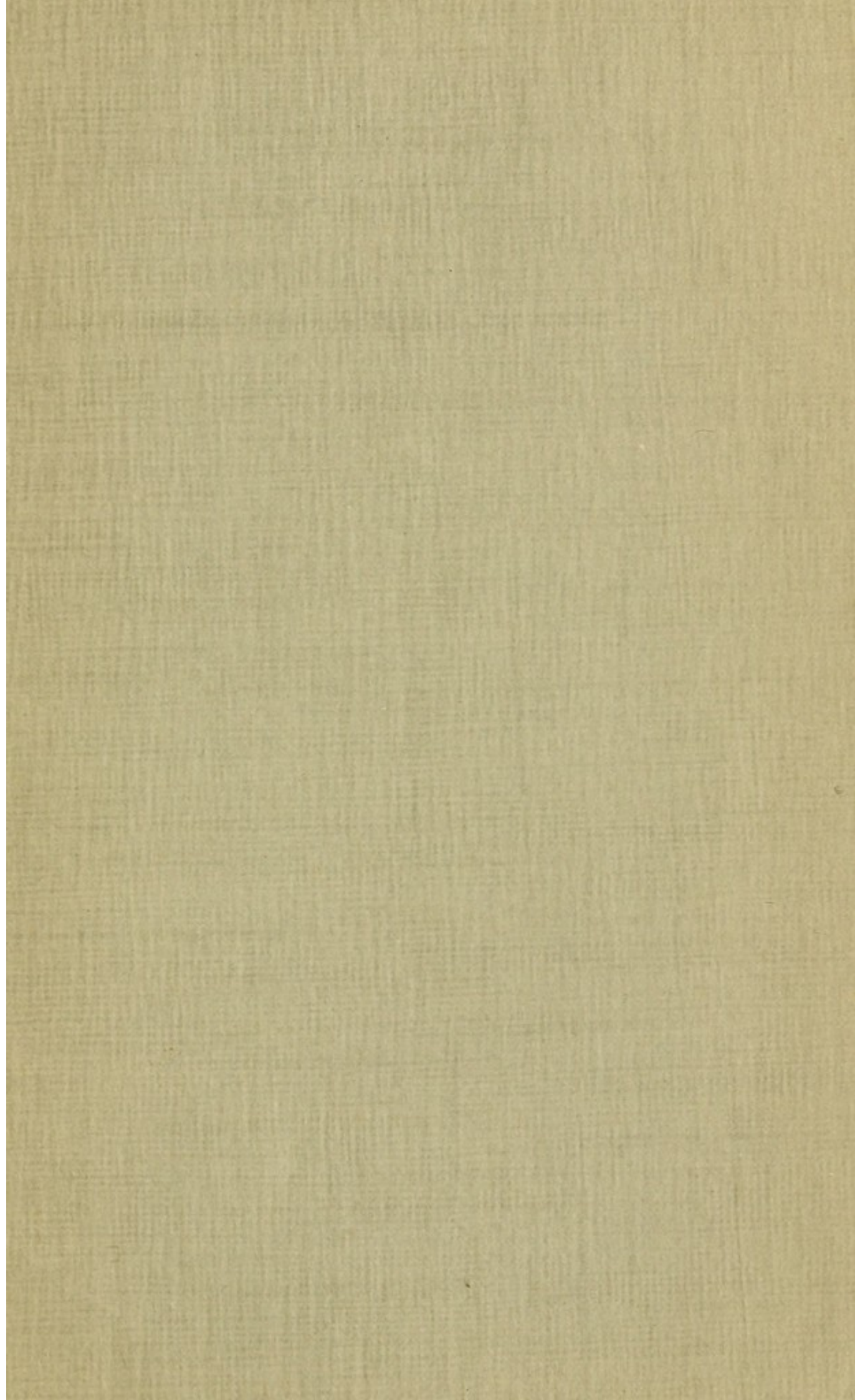
- A. Health measures of prime importance:
 - 1. The suppression of communicable and industrial disease.

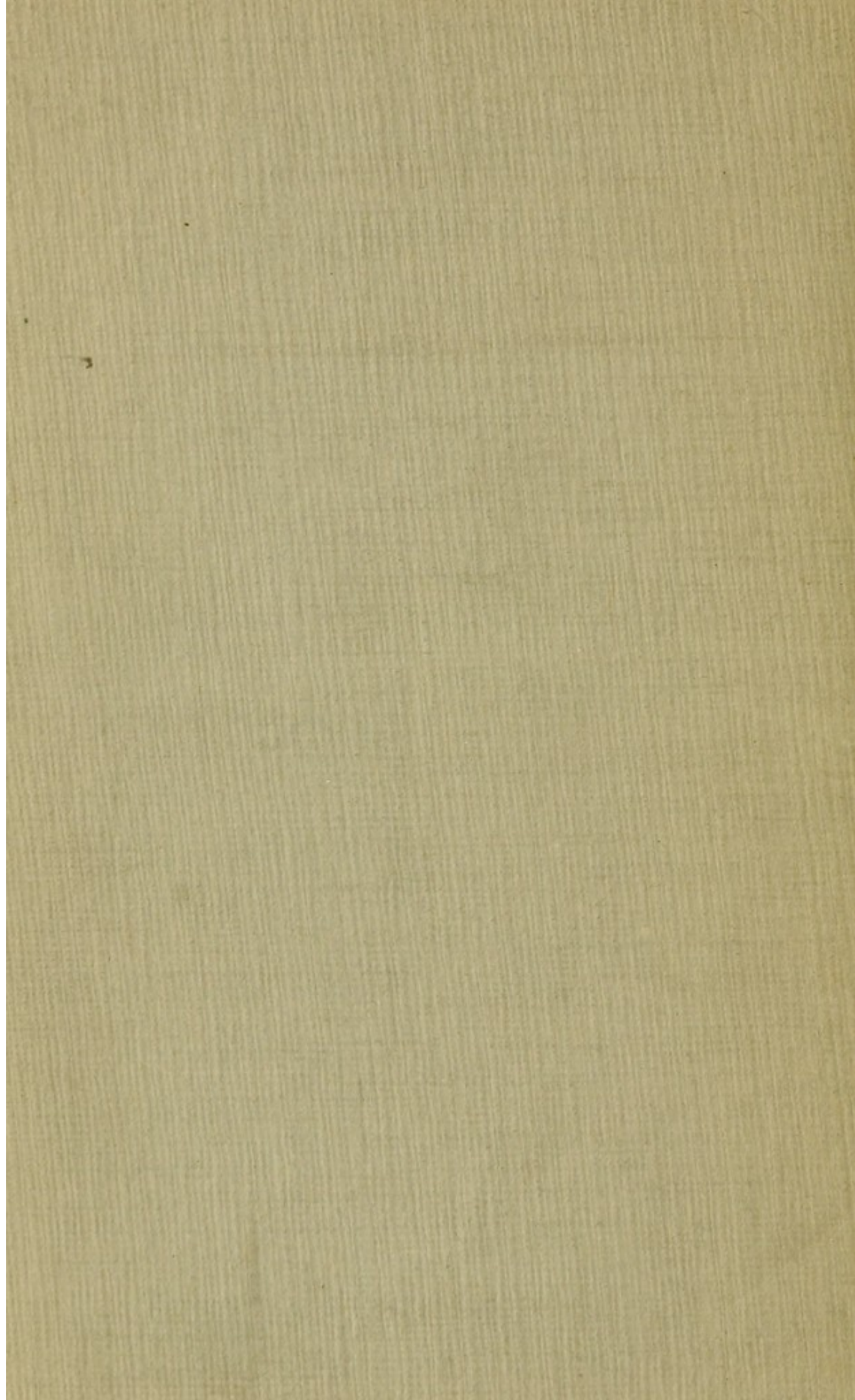
2. The reduction of infant mortality.
 3. The control of the milk and water supply.
 4. The medical inspection of school children.
 5. The study of contact and secondary infections, and the control of disease carriers.
 6. The control of hereditary and congenital disease factors.
 7. Birth, death, and marriage statistics, and book-keeping to determine the value as a life-conserving force of any expenditure made.
 8. Publicity and educational work.
 9. Sanitary research.
- B. Health measures of secondary or of indirect importance:
1. The control of housing conditions and other general environmental factors.
 2. The inspection of foods and drugs.
 3. The handling of municipal wastes.
 4. The suppression of nuisances.
 5. Insect and rodent elimination.*
 6. Plumbing inspection, smoke inspection, etc.

It is important to know along what lines the health appropriation should be directed. It is important to have some idea what returns may be expected from a certain outlay. It is even more important to have an accurate system of bookkeeping, by which it is possible to know what the results are after the money has been spent and the effort made. If health appropriations are to increase, the people must be inspired with a fundamental and lasting confidence that results can be obtained worthy of the cost. If the people at large are to have any reasonable and sound judgment in this matter, they must be intelligently informed of the true, comparative values of health measures. In health work, as everywhere else, education is the essential prerequisite to sound

*This would be of prime importance in certain communities where malaria, yellow fever (mosquitoes) and plague (rats) exist. It is probable also that house flies are of considerable importance in the transmission of diarrheal diseases of infants.

judgment concerning relative values. Here, as always in a democracy, we must have confidence in the significance of the greatest epigram in the history of the world, "know ye the truth and the truth shall make you free."





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