

## PUBLIC HEALTH EDUCATION IN RETROSPECT

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When King Tut reigned in Egypt the male sex married at 13 or 14 and the girls at 12 years of age. This was necessary in order for the parties concerned to enjoy an appreciable period of conjugal existence because the life span was exceedingly short in those ancient days. King Tut himself died a very young man.

At the time when Queen Elizabeth graced the British throne a man who survived thirty summers of that stirring romantic age was no less an exception to the general rule than the centenarian is today. As late as 1800 the average length of human life was less than 25 years, but it had risen to 45 by the opening of the twentieth century. Now, in the United States, a child at birth, if he can be identified as that illusive character, the average person, may look forward to an after existence of 58 years on this earth.

The law of cause and effect has operated to bring about this marvelous transformation whereby the years of man are not only extended to more than double their former number but are made infinitely more healthy and happy. As one authority expresses it, "In twenty-four years we have accomplished more in medicine than in twenty-four centuries before."

The change that has taken place has been both negative and positive in character. Quackery and the sale of nostrums in their worst forms have been eliminated, while the advancement in medical and sanitary knowledge has been accompanied by the development of public and private agencies devoted to the purpose of controlling and preventing diseases.

To understand of what moment are the things that have transpired during the past fifty years one needs but to give a hasty glance at the history of the Illinois State Department of Public Health and dwell for an instant upon a few outstanding features of that history.

In 1877, not yet 50 years ago, the Illinois State Board of Health was created by an act of the legislature. Com-

menting on that event, which was certainly a manifestation of public concern in matters of health, the Chicago Tribune, on November 21, 1877, said:

"The State Board of Health is of recent invention. The last Legislature, in its infinite wisdom, saw fit to create this new board. By some it has been thought to be an unnecessary luxury and by others an actual necessity. One of its principal duties is to obtain a registry of all the physicians in the state who are entitled to practice and who are graduates of medical colleges, and to issue to them a certificate showing that they have either passed the necessary examination, or shown ample proof that they are physicians in good standing, entitled to the sheepskins which they profess to own. So far, the Board is a benefit to the public, and it will materially aid in wiping out the quacks, who have settled themselves all over the State."

From the December 17, 1877, edition of the Inter-Ocean, a Chicago daily, is the following extract:

"It is hardly necessary to say that the city of Chicago has become noted, not only for the immense number of villainous quacks, but for the ignorant and imperfect manner in which the register of births and deaths has been kept. The infant who was reported as having died of 'canker rash, diphtheria, dysentery and consumption,' and another, whose cause of death was returned as 'five doctors,' doubtless had good reasons to die; and 'delicate from birth,' 'infancy,' 'stoppage,' 'fits,' 'colerafantum,' 'collocinphanton,' 'cholry fanton,' 'bled,' 'direars' (diarrhea), 'billirm (delirium) fever,' 'artry lung busted,' 'feusson' (effusion), 'canker on brane,' and 'infernation lungs,' probably convey some ideas to the persons who wrote the terms; but such returns cannot be of much use from a statistical point of view. The importance of correct and intelligent registration cannot be underestimated, as modern sanitary science owes its existence to the registration of deaths and the localization thereby of insanitary conditions. It is right that the enforcement of the two bills, passed by the Legislature of the State, that will make such a radical change both in medical profession and in the method of registering births and deaths, should demand considerable attention."

These quotations suggest the deplorable conditions into which the practice of medicine had fallen fifty years ago in Illinois. Anybody who desired to become a "doctor" had only to open an office, hang out his shingle and bid for clients. There was none to hinder him and his success depended only upon his ability to attract patients. Short course and fake medical institutions sprang up and flourished. In many quarters the business of making and being "doctors" was looked upon as a lucrative vocation rather than as a high and dignified calling to a noble service for the alleviation and prevention of human ills.

Of course the quack is still with us, but he is more refined and fairly well regulated. His range of mischief is more limited. He cannot prescribe drugs. He must secure a state license. The public understand that the term "doctor" does not necessarily imply "M. D." Most folks know to whom they must turn when real medical advice or service is desired.

#### OTHER SERVICE OF THE BOARD OF HEALTH

Serious as it was, the "quack" problem made up but a part of the duties ascribed to the State Board of Health. Epidemic and pestilential diseases stalked to and fro in the land. The Board of Health was required and given authority to employ whatever measures were deemed necessary in the abatement and prevention of such diseases. Section 2 of the original law of 1877 reads, in part, as follows:

"The State Board of Health shall have the general supervision of the interests of the health and lives of the people of the State. They shall have supreme authority in matters of quarantine, and may declare and enforce quarantine when none exists, and may modify or relax quarantine when it has been established. The Board shall have authority to make such rules and regulations and such sanitary investigations as they may from time to time deem necessary for the preservation and improvement of the public health, and they are empowered to regulate the transportation of the remains of deceased persons."



Under this provision the Board of Health, during the second year of its existence, was called upon to deal with a terrifying epidemic of yellow fever. During the summer of 1878 the disease broke out in New Orleans. This was no uncommon occurrence, but the outbreak suddenly assumed such serious and fatal proportions that the population fled from New Orleans like rats from a burning vessel. The refugees were unwelcomed guests in Northern territory. The disease soon began to work its way up the Mississippi Valley and to appear in the same deadly form among the inhabitants of the river towns. Like some invisible beast it crept from town to town, reaching its terrible fangs into the homes of both rich and poor, striking terror into the hearts of everyone. Whole cities were depopulated overnight except for the sick and the courageous doctors and nurses who ministered to their needs. The disease travelled as far north as Cairo, Illinois, where it caused scores of cases of illness and resulted in 62 fatalities.

The following quotation from the August 14, 1878, edition of the Chicago Times indicates the frightful state of affairs that prevailed in Grenada, Mississippi:

"There have been seven deaths from fever and eight new cases in the last twenty-four hours. The indications are that at least eight or ten more will die before noon tomorrow. So far, none have got well. The town is in a filthy condition. The sewers are open in many places, and garbage lies around uncovered. Disinfectants are now freely used. At least five hundred white people, out of a population of twelve hundred white citizens, have left town. They are certainly not to be blamed. Only one colored person has been taken down so far. It appears to strike the best citizens of the place. Dr. Hughes reports four cases of black vomit that will die tonight undoubtedly. The weather is very unfavorable for the patients. It is cloudy and threatening rain. All excepting the drug stores are closed. No train is allowed to stop and supplies are getting scarce. The condition of affairs here is truly appalling."

Another newspaper dispatch, quoted from the August 16, 1878, issue of the Chicago Tribune sheds more light



upon the distress at Grenada. It was a copy of a telegram to the Mayor of Wilmington, N. C., and reads as follows:

“Grenada, Miss., Aug. 14, 1878.—To the Mayor of Wilmington: Help us to pay nurses and bury the dead. Our town is a graveyard. We need help. The Mayor is dying, and I am the only officer left.

E. D. A. Molton,  
City Marshall,  
Acting Mayor.”

Conditions were much the same in Memphis, while in New Orleans every ordinary social and business activity was completely demoralized if not entirely paralyzed.

People of Illinois were in a state of alarm lest the yellow fever plague should fasten itself upon the state. Chicago newspapers carried the harrowing details of the epidemic under such compelling head-lines as:

### **JUNGLE JACK**

His Summer Tour in the North to be opposed  
at Every Step.

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### **THE FANGS OF FEVER**

Fastened on Two More Dwellers in  
Cincinnati Yesterday.

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### **NEARING THE NORTH**

The Yellow Fever's Progress Up the Mississippi  
Valley Unimpeded.

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### **THE AWFUL ARCHER**

His Victims Still Falling by the Score in the  
Fever District.

## **THE DENS OF DEATH**

**Railway Trains Unchecked in Their Flight Past  
the Plague Spot.**

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## **THE MOWER OF MEN**

**Progress of Yellow Jack's Harvest of Humanity  
at the South.**

Nobody in the whole Mississippi Valley or in territory contiguous to the Gulf coast felt safe from yellow fever. Nobody knew how the deadly plague was spread so that everyone stood in constant fear and dread of every person and everything that came from the fever district. Everything was suspected of harboring the germs of the dreadful disease that had already worked such havoc in the main foci of infection. As indicative of the state of knowledge about the cause of yellow fever a few paragraphs from instructions sent out by the Surgeon General of the U. S. Public Health Service are quoted. As they appeared in the August 20, 1878, edition of the Chicago Times, we read:

“The weight of scientific evidence seems to warrant the conclusion that yellow fever is produced by an invisible poison, capable of self-multiplication outside of the human organism, which it enters through the air passages. The poison germ or miasm is a product of the tropics. In this country yellow fever has prevailed in most of the Gulf and Atlantic cities, and in many of the towns along the Mississippi River. In some instances it has been carried inland with the people fleeing from infected localities, but it has never shown a disposition to spread epidemically at points remote from the continuous water-roads of commerce, or to lodge in high, salubrious places. The cities of the Great Lakes have always been free from the disease. Yellow fever cannot be said to be endemic in the United States, from the fact that in some years it does not appear, though the imported germ undoubtedly survives the mild winters.

It appears to have about as much resistance of cold as the banana plant. When the banana stalk is killed

down by the frost the yellow fever does not recur again until imported. The germ is transmissible. It is capable of being transported to the clothing or personal effects of passengers and sailors, but its spread from one city to another is chiefly accomplished by vessels, their damp, filthy holds and bilge water being its favorite lurking-places. Confinement, moisture, and high temperature favor the multiplication or virulence of the poison."

People looked with suspicion upon the earth, vegetation, the sunshine and the air. This is demonstrated by the following paragraph from the Cairo (Illinois) Bulletin, dated August 2, 1878:

"Great care should be taken not to root up vegetable matter, or uncover heaps of mould, or remove pavements during this season. These are the lurking places of bacteria, vibriones, and fungi. It is safer to apply the antiseptics to them as they are than to expose their miasmatic underlying to the sun."

A similar slant is evidenced from the minutes of the meetings of the State Board of Health. From a chapter of those official records relating to the proposed inauguration of a most exhaustive sanitary and drainage campaign we read:

"In such study there must, of necessity, be a careful and thorough consideration of measures that will prevent not only the periodic overflows which occur almost every year, sowing the seeds of disease and death throughout the entire lower country, but of measures that will go yet further, and, through a comprehensive, skillfully planned system of drainage, will make dry the swamps and marshy places, and reclaim the millions of acres of valuable land that today remain more or less submerged as they were left by the aborigines, giving off continually noxious gases which, in their effects, are annually consigning thousands to premature graves, and at the same time placing the health of the whole people upon a lower plane than it would otherwise occupy, diminishing thereby their powers of resisting disease and enabling epidemics, as a consequence, to count their victims in greater numbers."

Even railroad cars and boats were regarded as carriers of yellow fever. So firmly were Pullman cars suspected



that the State Board of Health took measures not only to require the most thorough disinfection of cars that came from the epidemic districts but to prohibit them from entering Illinois at all. In the course of investigating Pullman cars a report from the superintendent of the Louisville and Nashville Railroad lines was received and incorporated in the minutes of the Board meeting. It reads, in part, as follows:

"In contracting our lines as the disease manifested itself in Memphis and other points south, in the latter part of July and the early part of August, all lines whose northern termini were in this city (Louisville) were entirely withdrawn, and thenceforward, until after the Board of Health had declared it safe for citizens to return to Memphis, not a single sleeping car coming from an infected district came into this city; the cars on the line from New Orleans to Cincinnati passed around the city by the short line cut-off, leaving the main stem of the Louisville and Nashville railroads three miles south of the city."

Another idea of how yellow fever spread north from New Orleans is gained from a dispatch which appeared in the August 15, 1878, edition of the Chicago Tribune. This conviction explains why refugees from the infected cities spread fear and alarm among the people in communities to which they fled. The dispatch reads:

"It is now definitely known that the fever was communicated to the Mississippi towns in the clothing of a boatman of the first boat that stopped at Memphis. This is one of the most dangerous means of spreading diseases, as well persons fleeing to the Northern cities can readily carry the poison."

Another newspaper quotation, describing the public alarm created by the appearance of a case of yellow fever in Cincinnati, gives a vivid picture of the state of the public mind in regard to that disease. The dispatch is taken from the August 1, 1878, edition of the Chicago Times and reads:

"Last Saturday morning a couple of guests registered at the Grand Hotel as 'William Hines and wife, New Orleans, Louisiana.' They were just from the train, and

the gentleman, who, as it was afterward learned, is a very wealthy cotton broker of the Crescent city, appeared very ill. The lady, a most beautiful woman of perhaps 35 years, appeared to be very nervous and ill at ease, and it was plain to be seen that her condition arose from her solicitude for the welfare of her husband. In response to their request, the best apartments in the hotel were assigned them, and as quickly as possible the gentleman was placed in bed, and a physician summoned. Dr. Reamy, whose office is directly opposite the hotel, was soon at the bedside of the patient, but he found considerable difficulty in diagnosing the disease that he was called upon to grapple with. The wife, however, afforded him light on the subject without hesitation, saying that she was positive that Mr. Hines was a victim of that terrible scourge now raging with such virulence in New Orleans, Vicksburg, and other southern cities, yellow fever. Dr. Reamy was disposed to doubt the truth of her assertion but Mrs. Hines declared her conviction that it was yellow fever and nothing else; that she had been afflicted with the disease herself, and that while at home they had been exposed to it, and their presence at this time in Cincinnati was due to the fact that they came north with the especial purpose of getting beyond its reach.

Finally other physicians were called in, among them Dr. Tom Minor, the health officer. The result of this consultation was that it was a clear and pronounced case of the fell disease, though not what might be called a 'bad case'. Of course Col. Gilmour, the proprietor of the Grand, was not long in finding out that he had beneath his roof a man afflicted with a disorder as much to be feared and dreaded as is the smallpox, and, as a matter of course, he was in a fever of excitement. The news spread in some inexplicable way, and it was not many hours until a sort of panic reigned, where a few short hours before all was ease and enjoyment. Dr. Minor saw at once that his duty was to remove the patient to the city hospital, and this he at once made arrangements to do. Going to the hospital he explained the case to Col. Jones, the superintendent, and that official was horror-stricken at the idea of admitting within his door a victim

of the scourge. He protested against it with vehemence, but after a great deal of persuasion and not a little plain language on the part of the health officer he finally gave in."

The extent to which fear of yellow fever found lodgement is indicated by quarantine regulations adopted against that disease. Subsequent to the epidemic in New Orleans that city adopted regulations which included:

"In the event of any cases of fever breaking out in the city from germs hibernating from the last epidemic, each case will be kept under strict surveillance, and ingress and egress from the house where such case occurs will be prevented by a cordon of sanitary police, so as to prevent the spread of the disease."

A national Board of Health was created which drew up a most far reaching plan for sanitary control, including drainage of great areas along the Mississippi Valley, and for an interstate sanitary police system which would be clothed with great power. In behalf of this plan the president of the Illinois State Board of Health made an eloquent plea, closing with the impressive statement:

"Then will be dispelled, and then only, this deadly malaria which ever hangs like a heavy cloud over the entire Mississippi Valley, acting as a great clog to the energies of its inhabitants, and undermining the constitutions of all."

In connection with the yellow fever epidemic of 1878 the Illinois Board of Health was very active. It kept sanitary and medical officers at Cairo constantly. It participated in all the inter-state activities of importance which had a bearing upon the situation. It established quarantine regulations that required the inspection of all transportation equipment that came into the state from the south, including river boats. It worked untiringly and was responsible for controlling and allaying much of the alarm that smoldered in the minds of the whole population.

#### OTHER DISEASES

Yellow fever was not, of course, the only disease that ravaged upon the public and indeed it was not the chief



one in Illinois. It merely held the center of the stage for some years immediately following the creation of the Illinois Board of Health. Typhoid fever, tuberculosis, diphtheria, smallpox, scarlet fever were all far more deadly and far more prevalent in the state than yellow fever ever was.

As if prophetic of what was about to happen in Chicago, the *Inter-Ocean* carried, in the December 19, 1877, issue, a long discussion of the danger to that city from smallpox. In the course of the discussion it pointed out what had already occurred elsewhere, which, one may believe was sad enough, judging from the excerpt that reads:

"To show what the result of these deficiencies in the health department of Milwaukee have resulted in, it may be stated that during the past two years that city, with only a population of 80,000, has had nearly 5,000 cases of smallpox, 700 of which resulted in death. The city has at last arrived at some sense of its condition and it is now constructing a temporary smallpox hospital as fast as it can be built. In Montreal, a city not much over one-third as large as Chicago, and which, also, has no smallpox hospital and no compulsory vaccination law, the death rate from smallpox averaged 700 per annum."

A year later a most deadly and devastating epidemic of smallpox broke out in Chicago. It reached its crest in 1881 and raged on through 1882, causing 1180 deaths the first and 1292 deaths during the second of these two years. The death rate per 100,000 population from smallpox mounted to 218 and 230 for the two years respectively. Doubtless conditions were but little better in much of the down-state territory, although there are no statistics to bear out this assumption.

Eight years later in 1890, Chicago found itself in the throes of a typhoid fever epidemic of major proportions. It raged relentlessly for three long years causing 1008, 1997 and 1489 deaths during 1890, 1891 and 1892 respectively. This situation caused no such alarm and terrorism as an outbreak of yellow fever because typhoid fever was always present and these three unhappy years were merely worse than usual.

Examples like these could be multiplied at length both in regard to the diseases named and in regard to others such as diphtheria, scarlet fever, tuberculosis, rabies. The story would be all the more tragic if statistics were available for the entire state.

Contrast the foregoing with present day conditions. No case of yellow fever has been reported in the United States for a number of years. If the disease were to appear, and it is still a potential danger to the southern states, no wide-spread alarm would result because speedy measures for absolute control would be promptly introduced.

The 1923 death rate from smallpox in Illinois was less than 1/10 of 1 per 100,000. There were only 1450 cases of typhoid fever with less than 300 deaths in Illinois last year. The general death rate was 11.2 per 1000.

The change has resulted from a widening of real scientific medical knowledge. High school boys today know more about medical and sanitary facts than did practitioners of the healing art 100 years ago.

On the other hand there is still a long way to go. Diphtheria is a positively preventable disease. Toxin-antitoxin will make children immune to it. Why then do we still suffer therefrom? An average of more than 10,000 cases are reported annually to the state health authorities; an average of 1000 per year terminate fatally. The simple truth is that parents have not yet believed in their hearts that toxin-antitoxin is less dangerous than diphtheria.

Tuberculosis is still a problem. Pneumonia is just as deadly as it ever was. Mortality from heart diseases and cancer has increased. All of these maladies are subject to preventive and control measures. Progress toward preventing these and other diseases depends more largely upon the dissemination and popular application of scientific medical knowledge already available than upon the results of further researches in this field.