The Boston Medical and Surgical Journal

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June 2, 1921

The Massachusetts Medical Society.

THE ANNUAL DISCOURSE.*

NOTE.—At an adjourned meeting of The Massachusetts Medical Society, held Oct. 3, 1860, it was

Resolved, "That The Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

SOME OF THE MUTUAL RELATIONS BETWEEN THE PHYSICIAN AND THE COMMONWEALTH.

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APPRECIATING the honor of being chosen the orator of the day, an honor that to my mind carries with it the obligation to attempt to render you a real service, I long considered the question of the subject of my oration. I chose the one I shall today present to you—"Some of The Mutual Relations between the Physician and the Commonwealth."

There are four controlling instincts in human life—the instinct of self-preservation, the herding instinct, that of procreation, and the desire to exercise freely one's own will—self-determination.

* Delivered before the Massachusetts Medical Society, June 1, 1921.

Think, if you will, of a man alone upon an uncharted and unknown island. He represents absolute freedom. Bound by no laws, he may follow his own sweet will. The necessity of providing for himself food, shelter, fuel and clothing, or of suffering the consequences of a failure so to do, being the only compulsion. He may wander at will. He may work as many or as few hours as he may choose. He may carry out the primeval instinct of absolute independence and of yielding to no one a jot or a tittle. Imagine, now, that to this island comes a second person. The whole situation is changed. "Meum" and "tuum" now exist. There must be coöperation—or the relation of master and dependent. Boundaries and rights must be settled by force or else by mutual agreement. The realm of law has come into existence. If the inhabitants increase, the question becomes more complex. Development will come along one of two lines—that of autocracy with promulgated law, or that of democracy with the law of the majority starting first as custom and being later developed into the written law of the land.

Let us assume that, in the case of our imaginary island, democracy is the outcome, what is the rational procedure? Individual desires are curbed. The good of the whole is the criterion. Cables, factions, and combinations may exist, each striving for power and control—for

the primeval instinct in combination is identical with that in the individual, but the will of the majority is the law, and, when declared and set forth, must, to be effective, be supported, if necessary, by force.

In community life, even on an island such as we have described, there will be inequalities. Mental power will not be an unvarying quantity; the ability to plan, to carry out, will vary. There will be combinations of the powerful to gain more power, and of the weak for mutual protection. The combination of the powerful may be wise, or intolerant and unjust. The combination of the weak may be ineffective and unwisely expressed, or it may gain power and become, in turn, intolerant and unjust. The safety—more, the very existence of tolerable life depends on one factor alone—the intelligence, the education and the high purpose, not so much of groups in combination as of the community as a whole.

This principle applies, not alone to the island we have been considering, but, in equal or greater measure, to the hamlet, the city, the State and the Nation. So long as the great body of citizenship is sane, the community life is safe.

While, theoretically, the principles I have laid down are applicable to Nations, to the world as a whole and even to a series of worlds, practically we have to limit its application when our unit reaches the boundaries of a Nation, for the simple reason that, to be effective, its *modus operandi* must be understandable by the majority of those whose interests are involved, and its democratic bases be a part of the life experiences inherited from their progenitors. It is impossible for us to view the world through the mental vision of the Chinese, the hordes of deepest Africa, the Hindu, or, perhaps, even that of the inhabitants of certain parts of Europe.

I have described law as "custom expressed in words"; but note an important addition—custom expressed in words and *made effective*. The will of the majority must be enforced upon those who, in the exercise of what I have termed the primeval instinct of self-will and determination, desire to resist this majority will. Hence have arisen, by necessity, officers of the law, judges to interpret it, police and soldiery to carry out its provisions. It may happen,—it has frequently happened,—that, for the instant, a minority may secure enough adherents to become a majority—in which case there naturally follows a change in the law. Under many circumstances this is not to be deplored, but often marks progress, and must occur until the Divine law,—law founded on omniscience and omnipotence, becomes the law of the world.

While laws deal with many questions that are local or individual, there are certain laws that are charged with matters of public interest,—for example, those relating to the production of food, fuel, and clothing, the necessities of existence, and those concerned with the public safety. In the pronouncement and enforcement of these laws, the community has a special, a vital interest. The production of the necessities of life must go on in order that the community may live; the transportation—that there may be an interchange of products and there must be assurance of the safety of human life, in order that repose of mind, and not constant anxiety, may be our portion. Hence, when any man, or group of men, threatens these fundamentals, the community, aroused, expresses its will and must be obeyed.

When, in Kansas, one man said to the State, "Unless you at once comply with our demands, Kansas shall freeze," Kansas had a Governor who, as quoted by one of his constituents, replied, in substance, "We have the Golden Rule, but we also have the Ten Commandments, many of which begin, 'Thou shalt not,'" and the will of the people of Kansas, as a whole, expressed in the acts of its men and women through new but absolutely legal methods of procedure, prevented a catastrophy at which the world might well have gaped aghast.

More recently, when the capital of this Commonwealth was threatened with mob violence, we had, fortunately, in the chair of the Governor, a man who had the courage to say, "Thou shalt not"; and the great common people of this old State leaped to uphold his hands representing, as they did, the authority of law and order, and, later, recorded their opinion in a manner so emphatic that it could not be misunderstood, even in the farthest hamlet of the State, yea, of the Nation.

On the other hand, not long ago, when a group of capitalists banded together to form a monopoly in the control of certain essentials to human existence, the Supreme Court of the United States, interpreting the law and will of the majority of the people, said, in effect, "Thou

shalt not," and ordered a dissolution of the trust.

Few sane men in this day are opposed to organization to improve conditions, to make life more a thing of comfort and happiness, to secure of personal or group advantage the maximum consistent with the welfare of the public as a whole. But to any group, whether of labor, of capital, or of other interests that may say to the community, "Our interests are to be advanced, no matter at what cost of suffering and danger to you," the community will reply, "Thou shalt not," and, if necessary, enforce the command. Were this not true, life would be intolerable, because it would be encompassed by a continuous guerilla warfare between factions.

That this community "Will" be wise and well considered implies, of necessity, that the great majority of those composing it shall be decently educated, and able to comprehend the underlying principles that make government and invest it with power. Hence, everything that tends to educate the citizen body is valuable. yes, indispensable; and by education, I mean a knowledge that includes not only the fundamentals of history and of government, but, as well, a knowledge of those matters the acquisition of which, develops mental power and also the ability to evaluate the subject under consideration.

Since it is impossible for a large body like the State to register the opinion of its citizens by individual expression, there has been devised a system of legislatures where the representatives, elected by the people, are supposed to formulate into laws the opinion of those whom they represent. Theoretically, the law making ensemble is representative of its constituents; if, however, it chances that it be composed of those who are chosen, not by the deliberate judgment of the majority of the people, but by the chicanery of self-seekers for the responsible position, through the method of what is known as "practical politics," or by organization founded on, or supported by, an appeal to the baser elements, and nourished by appeals to passion or prejudice, other dangerous conditions come into existence. Hence the importance that every man and every woman not only exercise his or her prerogative of voting by using the ballot for the advancement of sane and sensible legislation, but also that he and she take personal interest in the selection of those who are to be balloted upon as candidates for high office.

The law, in the interest of public safety, regulates certain professions. Today we are considering the medical profession. The will of the people has been expressed in law that compels the citizen who would practice medicine to have a definite amount of preliminary education and training,—in this State a miserable minimum that places us near the bottom of the list of States and prevents reciprocity; it compels registration; it lays down certain conditions; it establishes definite restrictions under which alone can certain acts be performed; it provides punishment for an infraction of the criminal law; it gives the aggrieved patient the opportunity for civil procedure and for the recovery of pecuniary damages in the event that the professional accomplishment is below the level of the average skill and ability possessed by the practitioners in the community where the physician resides; under the same penalty it punishes neglect of obvious duty. In one recent year over 8% of all the physicians of this State were either sued or threatened with suit. This does not indicate a decline in medical ability, but in many cases, is the result of the knowledge on the part of a despicable group of harpies that insurance companies can be plucked better before their death, which death is now widely predicted. I am unable, after consultation with some of the best legal minds in the Commonwealth, to offer any suggestion for legislation that can relieve the situation, unless it be partially relieved as a corollary of a plan I will later offer you for your consideration—affording relief in much the same manner that the business man is now protected under the Compensation Act.

Because it has granted to the physician certain privileges and rights, restrictions of the field and a degree of legal protection, the community expects that the physician shall, in re- the coin of the realm; and, since the early days, turn, give some service that is not paid for in the physician has recognized this as a duty and has also esteemed it a privilege to play his part in the work done for the general good. Practical defects, however, have arisen. The community has, at times, by an increasing number of its members, demanded such excessive service that the problem of existence for the physician has been a difficult one. The natural result has followed. The group of younger

physicians has manifested an increasing restlessness under these conditions and, to some extent, has gone to the other extreme, so that many of its members have taken the position that service without pecuniary recompense is not to be rendered, and that the public shall provide payment for all service that cannot be paid for by the individual. Calls that seem doubtful are declined and work is limited in hours, particularly at night. Situations have arisen of marked hardship; the community has grown restless under this attitude and has been seeking in various directions for a remedy,—health insurance, community centers, increased hospital facilities,—all have been taken up and are still being debated. The question is a complex one. A man, inprovident and spendthrift, has little right to demand from the profession a major part of its time and attention, to the exclusion of the opportunity for the individual physician to provide properly for himself and for his family. On the other hand, community spirit calls for the expenditure of the maximum of charity in time of individual or group poverty or distress. To establish the proper line of cleavage is a task for a mental giant, and yet I have sufficient faith in the force of the traditions of the profession and of the examples of the past to believe that, when a just solution is offered, the medical profession will, in the future, as in the past, live up to the full measure of those who have gone before, and do its part —yes, more than its part,—asking only that, in view of this service, the community also exercise its charity to a high degree.

There is one class of the community that is now cared for by the State,—those in public institutions established and maintained for State dependents who are sick physically or mentally. That the State should properly assume this obligation has not been disputed; that a large measure of their care falls upon the profession in these institutions there is no doubt; that the profession as a whole is ignorant of the necessities and needs of such patients is a regrettable fact. It should understand them, not only as a matter of sociology, but also because this burden of care, which might have been placed, under certain State systems, upon each practitioner of the State, has been concentrated in this Commonwealth under the care of a few.

There are two ways of considering the problem of the State charges. One is to consider that, being without means to pay for their care and treatment, whatever they may receive is better than they have a right to expect. This point of view is cold and brutal; on the other hand is the belief that, since the State has assumed this burden, it should bear it in such a manner that recipients of its bounty may receive the highest skill obtainable and the most tender care—with two objects in view: First, reconstruction of as many as possible, in order that they may again become self-supporting and of productive value to the State; and, second, in the event that this is impossible, that suffering may be alleviated and the environment made, not luxurious, but with a full measure of comfort. It necessarily follows that, in order to accomplish this, there must be the construction and maintenance of sufficient hospitals and institutions, their equipment for the particular purpose intended, including highly competent staffs, and a corps of nurses and attendants of proper education and training, and also, what is of paramount importance, there must be found in these institutions the proper spirit of service to humanity. To obtain these desiderata, it is a self-evident corollary that the recompense must be enough to attract men and women of proper mental and moral grade.

Let us look at the field. There are at present, in Massachusetts, seven special institutions for the care of the physically sick, with a total capacity of 4,045 beds. In 1919, the average per capita cost was $15.62 per week. The average salary of the physicians was, with maintenance, from $1200 to $3900; the salary paid graduate nurses, including the head nurse, ranged from $600 to $1320 a year; the average salary for attendants was about $540. There are 14 institutions caring for the mentally ill, two of which are not wholly supervised. The average per capita cost for 1919 was $6.35 per week. In 1919, the average wage of nurses and attendants was $500.76 per year; there have been some changes since that time. The number of patients on November 1st, 1920, was 18,611. In the fall of 1920, to provide adequate institutions and adequate beds, the Department of Mental Diseases recommended special appropriations amounting to $2,400,000, requesting provisions for nearly 600 additional patients. These are figures enough to give you an idea of the magnitude of the medical problem involved. The method

of meeting these problems is, in brief, as follows: Each institution has its unpaid Board of Trustees, appointed by the Governor and confirmed by the Council. Under almost every administration, the selection of these trustees has been absolutely non-political—a very easy matter when there is no financial recompense attached to the position. The men and women represent, as a rule, leaders in business life, in social welfare, and in the medical and legal professions. By these boards, the needs of each institution are carefully considered, a budget is made up, submitted to the State Board having jurisdiction, by whom it is considered in the light of the needs of the State as a whole, and sent to the Supervisor of Administration, who forms his conclusions. It is then presented to the Joint Committee of Ways and Means, who consider it in the light of the State income and make their recommendations to the Legislature. I believe it to be true that the majority of the legislature desire to do what is right and wise for the charges of the State, but the needs are so many that perhaps it is inevitable that budgets prepared as carefully as possible by the boards of trustees, some members of which are keen business men, are materially cut when the appropriations reach the final stage. In some cases, the result is very unfortunate. Let me illustrate. At the State Infirmary at Tewksbury, there are about *340* children, over 200 of whom are, by mental tests, shown to be substandard mentally. There is at the institution a hospital of *100* beds for children. The rest must be scattered among the other branches of the institution, much to the detriment of the children themselves. Moreover, with the facilities at hand, it is impossible to separate those of higher mentality from those of the lower type. Defective delinquents, one of the problems of the day, are a constant source of anxiety and of danger. Proper facilities for what education can be given these children are not at hand. Basement rooms are utilized, and everything is done that is possible under the restrictions placed upon the appropriations by the State. For *ten years* the trustees have annually called attention to this condition in their report. Meetings of sub-committees with heads of departments have been held, all of whom have agreed that the condition was intolerable and that the remedy should be applied, but today the condition remains as it was in 1910. In March of this year, the Trustees went personally before the joint committee on Ways and Means and set forth the urgent need and the unfortunate conditions that demanded relief. The request was again denied—with a suggestion that some (insufficient) relief might be obtained when a building in another part of the State was completed. Note the anomaly—A Board of Trustees, sworn to guard faithfully the interest of State charges and, for ten years, prevented from full accomplishment of this duty by the authority that placed responsibility upon them. I am not minimizing the fact that during these ten years this matter might well have been taken up in an aggressive manner by the departments responsible for custodial care, but in the last analysis the funds must be appropriated by the legislative body.

The Trustees of one of the State hospitals have repeatedly called attention to the need of facilities in State hospitals for patients not strictly State dependents but able to pay for somewhat increased comforts a small sum in excess of the actual per capita cost. No action upon this request has been taken. While these incidents might be multiplied, did my time permit, they serve to illustrate one of the points that I wish to emphasize, namely, that to accomplish definite results the medical profession must have a sufficient knowledge of these questions to enable them to exercise their undoubted influence as individuals with the members of the legislature in order that the best type of work may be done by the State. I believe that this Society might well have a standing committee on State medical problems in order that such problems be properly studied and the profession as a whole enlightened on subjects—not trivial, but vital.

In considering a community in reference to its medical needs, we may divide it into three classes, the rich, the dependents and the middle class. The rich can provide for themselves. The dependents are now provided for by the city, county or State. The class requiring the most careful consideration by us is the middle class. This class can again be subdivided into those able, with frugality and prudence, to arrange for, and pay for, the care of their sick and aged, and those unable so to do. No class is fixed. The rich man of today may be the dependent of tomorrow; and the dependent of today may rise to a self-supporting station.

In the middle class, also, conditions of employment or of health may cause an individual to rise above, or fall below, the self-supporting line. The size of a family is a factor in this varying status. So long as the strength of the nation is believed to be based, in part at least, upon the size of its population, so long as law-making bodies and certain religious denominations maintain that the teaching or practice of contraception is against public policy or proper religious belief, so long, as a natural consequence, will the community be obliged to aid those who function in the free yielding to the procreative instinct without regard to their financial ability to sustain and care, in times of distress, for those whom they have brought into the world. This is not the time or place to argue for or against the wisdom and righteousness of such rulings and beliefs. We must accept the facts and formulate our plans upon their existence.

I know of no better starting point than, somewhat arbitrarily it is true, to decide upon a wage which may today be accepted as sufficient to support a man, his wife and three children, which we will assume is a reasonable family, since the average family in Massachusetts consists of four and four-tenths individuals. That the wage sufficient in 1912 would fall far short in 1919 is true; that it must vary from time to time because of the varying purchasing power of the dollar is equally true. After consulting many who have special opportunities for acquiring knowledge, and after studying the tables of several investigations, I am going to assume for the purpose of this paper, that, in 1920, the minimum wage upon which a man, wife and three children can be cared for in a prudent, decent American way is $1500.

Wages are based, not upon the size of the family, but upon the law of supply and demand. The first question that naturally arises in a given case is, "Does the man or woman, or family, exercise frugality?" We cannot take away all responsibility from the individual. A person who refuses to practice any measure of self-denial should not feel that the community will take up all of his or her responsibility. The community must see that actual severe suffering does not occur, and it does this now through the measures in existence for the relief of the dependent class. He who, regardless of the future, enjoys all the pleasures of today must, on the morrow enter the class in which he finds himself properly classified.

As a necessity, then, for proper classification, comes the knowledge of the status of the individual (married or single), the size of the family, the earnings of the past year, and also the conditions of that year—that is, reference to whether there were unusual and not to be foreseen expenses, as, for example, severe and incapacitating illness or accident. In other words, before we can act intelligently, we must know whether or not the inability to provide at a given time for personal distress, or the distress of a family requiring medical aid, is due to unavoidable conditions, including insufficient wage. This also affects the suestion of credit. It may be necessary for the State to further establish the minimum wage as a protective measure. Remember that we have eliminated the rich and the dependent, which latter class includes those so mentally deficient that they are incapable of self-support. In an average year, the State dependent class in Massachusetts represents 89,273 individuals, or approximately 17,850 families.

We must, without question, or inquiry, relieve at the time of its existence, urgent suffering, but to carry on treatment for a period of time, we also must have a proper understanding of the conditions surrounding the individual and the home; then we can place the financial responsibility where it belongs,—on the individual, his blood relatives, who, if financially able should assume their part, or upon the local or the State community.

Here we meet at once with an obstacle. No man likes to confess himself improvident or reckless, nor can he often judge himself mentally deficient if so he be; he may hesitate to make known the fact that he has been living under unusual conditions. This obstacle is, however, not so great as at first it might seem, for the individual is always at liberty to provide for himself and his own, and only when the community must provide for him in whole or in part, is there any justification for an inquiry into his affairs. Moreover, such an inquiry should be conducted, not along the line pursued in years past, and, perhaps, in some communities today, by the average Poor Department—the line of minimizing aid, but rather along the line of effort to learn of the conditions of the necessity and to meet these

in such a manner that, as soon as possible, they be again made normal. It would be of small ultimate value to bring the temperature of an enteric to normal and in a week to send him from a hospital to be forced, in his weakened condition, to resume at once hard labor, with a resulting breakdown, and of small value to treat a septic right hand and discharge the patient in three weeks with fingers contracted so that they are not of economic value. So it is of small value to give free service and treatment to a needy family unless we can determine the *cause* of the need and, to such a degree as is possible, formulate plans for betterment of future conditions, while we utilize the best service in professional power to restore those afflicted. We require for ideal results, a coördination of community factors, including the medical profession. It is self-evident that the physician in private practice has not the time, nor perhaps the ability, to determine all the facts in a given case. There must be then constituted some body, or individual equipped for such a purpose. That such a method is not impossible was demonstrated in the late war when, not ideally in every case, but successfully in a large measure, Boards appointed by the Government determined the question of health and dependency in relation to service. Let us assume for a moment, that an agency existed that was charged with the duty of determining the matters under discussion. First, appearance before such an agent or agency should be voluntary, leaving to the individual the highest measure of personal freedom. Second, the evidence presented should be strictly confidential under heavy penalties for the disclosure of matters presented. Third, it should have the facilities to render medical relief with no publicity other than to the State or community department charged with the appropriation of funds.

The total population of Massachusetts is about 3,693,310 individuals, which represents about 826,490 families, since the average family consists, as I have said, of 4.4 individuals. It is estimated that 671,490 families receive an income of less than $2,000 a year. It is fair to state that, under the present method, about 400,000 families, or nearly 2,000,000 individuals, receiving an income insufficient to pay for the expense of sickness,—namely, under $1500 per annum,—are medically cared for neither by the community as a whole nor by themselves, in times of sickness, but, when ill, are given free treatment by the physicians of the Commonwealth. It is estimated that 422,000 of these will require medical attention in a given year. The maximum estimate of licensed practitioners of Massachusetts is 6,000. This gives an average of 70 free patients to each physician. If the average illness in a community is in duration, as statistics show, six days per annum, we might fairly estimate the average number of calls made by a physician upon cases of this class to be about 420 per annum, or about three in two days; and I believe your experience will bear out the approximate accuracy of these figures. This represents in money, at the prevailing charges, without any consideration being taken of special work requiring special skill and at special rates, a gift by the physicians of the Commonwealth of $7,596,000. This is a very low estimate since it assumes that only 25% of the members of the class considered will require medical attention. Of course, even these figures ures represent averages, certain physicians do much more, and others much less than their proportionate part.

I believe that the physicians of the Commonwealth will not complain of this burden—and burden it certainly is—but I believe that, in view of their contribution, they have a right to say to the community, "Taking into consideration the fact that we are giving our services to 2,000,000 of our fellow citizens, services estimated most conservatively as over $7,000,000, we believe it is only just that the commnnity do certain things: First, as an economic necessity, provide means to restore to health as rapidly as possible those afflicted with remediable conditions; second, lift from the shoulders of the physicians the care of chronic and incurable cases such as fall in this group." The latter request is not necessary to press since, in Chapter 304 of the Acts of 1919, the way is already open, this act providing that chronic and incurable cases, without reference to settlements, must be received at the State Infirmary, for which cases payment will be made either by the individual, the community where there is a settlement, or the State, according to the proper source for payment, as shown by investigation. The first request is certainly reasonable, and it can be granted without prohibitive expense, as I will endeavor to show.

There are times when most of us realize that

individually we know little; collectively, much. The physician competent to do, himself, major surgery, orthopedic surgery, genito-urinary surgery, eye, ear, nose, and throat work, ideal obstetric work, mental work, neurological and gynecological, as well as general medicine, is hardly existent. This is the dawn of group medicine. The general practitioner, gladly assuming his part of the work in the community, feels that he must have at his disposal special knowledge to restore as soon as possible the sick and injured to a normal condition. Probably 80% of cases requiring special skill are able to be moved. If, then, we had a central hospital ideally equipped both in staff and in equipment for the highest type of expert work, much would be accomplished to relieve the situation. In an average year it is a liberal estimate to say that in Massachusetts, among the class, not dependents, but earning under $1500 a year, 422,000 will require medical attention. It is a liberal estimate to say that 338,000 of these will be ill with trivial ailments which require ordinary skill. This leaves 85,000 who would require special treatment. Of this, about 80,000 would require hospitalization with an estimated average stay of 15 days, requiring therefore 3,333 beds for their care. In this State, there are approximately 200 hospitals, semi-public or municipal, having a capacity of about 15,225 beds, of which on a given day, about 8,000 are in use, many occupied by paying patients. This does not include the State institutions. There are about 33 municipal hospitals with a capacity of 4,000 beds. The waste of 50% of hospital beds in the State can, I believe, be overcome in the elaboration of the plan I will continue to outline, provided that communities not having municipal hospitals, or having such hospitals inadequate to supply local needs, can obtain coöperation from the semi-public institutions, and, since they are under State license, this should not be difficult.

If 10% of hospital cases require medical service of so expert a character as not to be available in local hospitals, then provision at a central hospital would have to be made for about 330 beds, which, under ordinary hospital averages, would care for 5,000 individuals annually. If we assume that the serious conditions of these patients require double the average hospital stay, that is 30 days, the beds mentioned would provide for about 2,500 patients per annum. I estimate roughly 100 beds might be devoted to surgical work; 100 to medical, 75 to electrotherapy, 20 to neurological work, 20 to obstetrical work, and 15 for disorders of the ear, eye, nose and throat.

To construct the accommodations would cost, at the present time, approximately as follows:

Building	$500,000	
Equipment	80,000	
Total		$580,000
Yearly State Expense:		
Upkeep and repairs	$5,000	
Administrator	6,000	
Six specialists	48,000	
Transportation of patients 6 ambulances	10,000	
District salaries (6)	18,000	
Office Administration	10,000	
Making a total of		$97,000

Estimating the cost per patient of food, medicine and nursing, and including house officers, at $30 per week the total annual expense, assessed back upon the local communities, would be $520,000, a considerable per cent. of which would be saved in the expenses at the local hospitals.

Bearing in mind that the estimate of service given now by physicians to members of this class of the community was most conservatively given as over $7,000,000, taking from this the annual cost to the State and to the communities as a whole under the plan I have evolved, there is still left to be borne by the physicians of the State, service estimated as approximately $6,000,000. I have not been developing a plan to free them from any large degree of community service, but rather to make that service more effective.

The practical detail of this plan would involve dividing the State into six districts, each having a physician, responsible to the State hospital, selected by its Trustees, and with authority to place in local hospitals, properly equipped for real service, upon the request of the member of his class requiring aid, or his physician, such cases, in the class we are considering, as are in need of hospital care; to transfer to the central hospital such cases, able to be moved, as may require skill or experience above that locally available, and to summon as consultant such special skill from the

central hospital when the patient in need cannot be moved with safety. This representative should be held responsible for the determination of the fitness of the individual to receive the benefit, in order that the privilege be not abused. It is not intended that he give medical service personally. The actual cost of all cases placed in local or central hospitals should be paid by the community from which the patient comes, but into this cost should not be counted the salaries and administrative expense of the central hospital, nor its transportation facilities. By this plan the initiative lies with the individual, expressed directly or through his physician; personal freedom is not interfered with; each community bears its own burden; the State provides expert facilities and administrative function. Communities now outlying to hospitals already established, of proper grade, might well arrange for the use of their citizens, additional rooms and buildings if sufficient facilities were not available, paying the full per capita cost of such service. There must, of necessity, be at the central hospital an administrator of this function, to whom all subordinates would be responsible.

The location of the State Central Hospital, manned by experts, might well be a matter of debate. Boston is the hub of the Commonwealth; Worcester is its geographical center; Newton, approximately the center of population. At Tewksbury, is a State Infirmary, functioning, equipped to receive all classes of cases and requiring, to include the class we are considering, but minimum expenditure of State funds since much of the organization is already developed and the grounds available. The work would be of extension rather than of new construction; if two central hospitals were provided for, the expense would be tripled.

The objection to a Boston center is the difficulty of correlating diverse interests; to a center in Worcester, the necessity for developing a large organization; to Tewksbury, its geographical position and the fact that the association on the same grounds of the State charges, and the class under consideration might, for sentimental reasons, be opposed; although the fact that chronic incurable cases are now received under payment as well as free, does away with much of this objection, since the admission of the incurables is constantly increasing in number. The great bulk of the patients would come from east of Worcester. An efficient ambulance service could handle the situation. It must also be considered that the addition of a group of this importance, carrying with it the gathering together of the highest grade of expert physicians, would enable the State to utilize this service, to such a degree as might be necessary or advisable, in the care of the more than two thousand physically and mentally disabled wards of the State now under care at that institution. The advantage to be gained by the State in every direction would seem to me to make the development of the State Infirmary along these lines a valuable asset for the Commonwealth itself in its administrative as well as its welfare work.

I appreciate the difficulty of establishing a staff of the proper calibre but, with a sufficient remuneration, it could be done. If the Legislature attempted to fix salaries on a low basis, the plan would be absolutely useless. Its success presupposes enthusiastic, high grade men in charge of departments. They must be men whom the profession as a whole regards with confidence. On them would hinge the success of the proposed measure of relief. Their selection should be made by the Trustees of the hospital and be based only upon the factors of ability and the proper humanitarian spirit, a combination difficult, but not impossible to obtain.

Will you note that through all this plan lies the fundamental idea of *service*, and service given in high measure by the physicians of the Commonwealth? It is not "State medicine" as heretofore thought of.

Service to others is the justification for existence, and it is the best contribution we can make to the world as we pass through its experiences. The fact that it has been given, is the solace of that hour, which comes to everyone, when the house is hushed and the white-capped nurse goes about her tender ministration; and, when the ear grows dull and the eyes dim as they strive to see once more the faces dearest on earth, the fact of this attempted service robs of much of its terror the final scene. Whether, when the eyelids are closed and earth is for us no more, the next moment be oblivion, or whether the faith and hope of ages past be justified and death found to be the beginning of life—in either event, our duty has been well performed. If our faith and hope prove justified, then the "Well

done, good and faithful *servant,*" may glorify our awakening.

We render service to the individuals forming the community and the Commonwealth. We ask the community and the Commonwealth to aid us in such service as is beyond our power to render. Is this not a fair request?

I care not how the details are worked out so long as the underlying bases are not disturbed, namely, the establishment of individual need, the freedom of individual action, responsibility placed as required on the individual, the blood relation, the local community or the Commonwealth, the selection of experts free from all extraneous influence.

I do not assume that this is the last word. I believe it to be superior to the plans for Health Insurance that have been proposed. It has closely related with it other problems which it may help to solve. One of these is the question of State aid in maternity work, because, if the difficult cases, early recognized by means of proper prenatal observation, were cared for at the central hospital, the fact of the possibility of this care would stimulate the plans considered for obtaining early the necessary data in obstetric work; and another — that of the rehabilitation of the vocationally disabled — a large field in industrial accident work which is at present only touched upon in its working out, and one which might be developed in connection with the surgical and the electro-physiotherapeutical service at this institution. In matters of detail the plan may be open to argument. In any event, it is offered to you as the conclusion arrived at after a year's special study of the problems involved—a progressive placing of responsibility, with the Commonwealth the culminating factor in rendering service, otherwise unobtainable, in such a measure as means the highest advantage.

The Commonwealth of Massachusetts has, in the past, always found the members of this Society ready to respond to its call in time of danger or distress, offering service and, if necessary, life. The distress of the poor in time of peace is often nearly as great as in time of war. I am pleading for those who, having neither opportunity nor, perhaps, ability, cannot plead for themselves. In their behalf, I plead with the Commonwealth to give them measures of relief, nor do I think I usurp authority when I say to the Commonwealth, "I pledge the hearty coöperation and help of the great majority of the physicians of the State in any feasible plan." Service *for* the Commonwealth and Service *by* the Commonwealth, is the crux of the "Mutual relation between the physician and the Commonwealth of Massachusetts."

Among those to whose courtesy I am indebted in my effort to obtain data for this paper, I am glad to express my appreciation of the aid obtained from Lee Frankel, P.H.D., and Louis I. Dublin, P.H.D, of the Metropolitan Life Insurance Company; Robert Kelso, formerly Commissioner of Public Welfare; George M. Kline, M.D., Commissioner of Mental Diseases; John J. Mitchell, Collector of Internal Revenue; Irving L. Shaw, State Income Tax Collector; Fancis D. Donoghue, M.D., Medical Advisor to the Industrial Accident Board; Mary E. P. Lowney, Assistant Director to the Industrial Accident Board; Walter P. Bowers, M.D., State Board of Registration in Medicine; Richard P. Borden of Fall River; Fred Magison of Haverhill; Bertram Bent, Claim Examiner of the Fidelity and Casualty Co.; John H. Nichols, M.D., Superintendent and Mr. Thomas F. Flynn, Treasurer of the State Infirmary.

Original Article.

THE ESSENTIAL FACTORS OF CANCER CAUSATION.

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(Continued from page 548)

According to the Mortality Report of the U. S. Bureau of the Census for the year 1917, the rates and percentages of cancer incidence upon organs and parts of the body are as follows:

	Rate per 100,000 Pop.	Per Cent.
Cancer of the buccal cavity	3.0	3.7
Cancer of the stomach, liver ...	31.1	38.1
Cancer of the peritoneum, intestines, rectum	10.9	13.3
Cancer of the female genital organs	12.4	15.2
Cancer of the breast	7.6	9.3
Cancer of the skin	2.9	3.5
Cancer of other organs, or organs not specified	13.8	16.9

These figures show that, whereas 83.1 per cent., or five-sixths, of all cancers appear in structures which together constitute only a small part of the body, namely, in the skin, female breast, and the alimentary and female generative systems, only 16.9 per cent., or one-sixth, remain to be distributed among all the other structures of the body. It must be remembered also that, even in those organs which are specially liable to cancerous disease, nearly the whole weight of its attack is borne by certain points which, in comparison to the size of the whole organ, seem to be almost insignificant. Thus, for instance, the great majority of cancers of the female generative system appear on the cervix uteri; of the alimentary system in