

PRIZE ESSAY

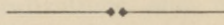
ON

MEDICAL AND VITAL STATISTICS.

BY

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CENSUS OF 1855 AND 1865.



ALBANY:

VAN BENTHUYSEN & SONS' STEAM PRINTING HOUSE.

1867.



## PRIZE ESSAY.\*

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The sciences which come within the province of the medical profession, are founded upon the correct observation and careful generalization of facts. We notice certain circumstances of resemblance, which are essential and common, until, finding few or no exceptions, we obtain a law of nature, and, thenceforth, expect with confidence certain results as following their antecedent causes.

The accuracy of our predictions is in direct proportion with the extent and fullness of our observed data, and when we find no exceptions in the sequence of cause and effect, our faith becomes settled. But the order of events is often disturbed by influences and circumstances which may modify, accelerate or prevent the expected occurrence, and, hence, the necessity of cultivating a habit of constant careful observation, with the view of appreciating the extent of these influences, and of judging of the result under their action.

This habit of observation is susceptible of cultivation in a remarkable degree, by a systematic method of recording the incidents under consideration; for the memory cannot always be burdened, nor uniformly trusted with the details which are to be employed in our generalizations, and, when it becomes necessary to compare our own observations with those of others, a common

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\* A prize of \$100, offered by Dr. Thomas C. Brinsmade of Troy, in 1865, was awarded for this essay, at the annual meeting of the State Medical Society in February 1867. The conditions of the prize were stated as follows:

“I will give \$100 for the best essay on medical and vital statistics. The essay must be accompanied by a plan for making and tabulating hospital reports, records of private practice in medicine, surgery, and obstetrics, together with a draft of a law for the registration of births, marriages and deaths. The prize to be awarded by the committee of the New York State Medical Society on prize essays; the essay to be placed in the hands of the committee, with the plans and drafts, on or before the 15th of December next.”

One essay was presented in 1866, but as it did not comply with the conditions, no award was made, and the prize was continued another year.



and mutually understood system of record becomes absolutely indispensable.

This inductive method of reasoning, by which we ascend from details to generalities, is peculiarly applicable to the medical sciences. In the *materia medica*, we can determine nothing of the medicinal properties of a given substance before its trial, nor can we speak with certainty concerning its reliability as a remedial agent, until repeated and long continued experiments have tested its properties and confirmed our knowledge of its action. The application may be accidental at first, and the repetition of these chances may, perhaps, lead to somewhat definite conclusions without a systematic course of observation, yet, order, method and a record of results, are obviously essential to valuable deductions from the facts under notice.

Analogies will often assist the observer, yet they will sometimes fail, and these exceptions impose additional obligations for care. For example; the seeds of umbelliferous plants growing in dry places, like the anise and caraway, are usually aromatic, and their essential oils are agreeable to the taste and useful for their medicinal properties; yet the *Conium maculatum*, whose habits of growth resemble these, is a marked exception to the rule. Most species of the *Solanum* bear a poisonous fruit, yet the tomato belongs to this genus, and is a common article of food.

Thus constantly do we observe exceptions to our general rules, which can only be ascertained by the careful accumulation of observed facts. Even the best known structures in anatomy, the established method of surgery, and the most reliable maxims in the theory and practice of medicine, depend upon no preconceived theories, but upon the consolidated experience of observers, and the general result of causes.

We notice these effects in the changing conditions of disease, and by comparing circumstances and observing the influences which favor development, the changes in function or structure which attend its progress, and the results to which they tend, we may often, by timely precautions, prevent its attack or check and modify its action; and even when this control is beyond our power, we may at last but seldom fail of ministering some relief to pain, where we cannot reach the cause.

As knowledge increases, new discoveries come to our aid, and such is the harmony of the sciences, that no new ray of truth is elicited from one, but it soon throws its direct or reflected beam

upon all. Mathematical formulæ may prescribe the shape of a lens having certain refractive properties which shall have the greatest microscopic power. The chemist produces the material of the required properties, and the artist gives the precise form, and by their united skill, we are enabled to study the elements of organic structure and the latent functions of animal life.

Thus do these sciences, which at first thought might appear least connected with our profession, enable us to study the conditions of health and the action of disease; and the illustration might be extended to include the whole circle of scientific inquiry, and every branch of experimental research.

The physician is peculiarly dependent upon correct observation, and careful induction for success; and in no department of human knowledge is there so constant a demand for thoughtful study and critical comparison, not only in the new cases that come under his notice, but from day to day, as each case under treatment, in its changing conditions, gives encouragement for hope or warning of danger. This daily application faithfully continued, leads to a habit of observation both agreeable and profitable, and as the accumulation of facts enlarges his knowledge, he reaps an ample reward in the growing and manifest success of his labors.

We propose to consider how these observations may be improved to the greatest advantage by recording them, and to suggest some thoughts upon the best manner of keeping the records and of tabulating the results.

The first and most essential feature of such a record should be, a *comprehensive brevity*, and a compactness and simplicity of arrangement which contains much in little space. It should be borne in mind from the outset, that statistical researches involve two distinct and separate operations: the *record* and the *classification*. The record should be made on the spot, or while the facts are all fresh in the memory. As it may often be required at a moment of haste, it should be brief and systematic, and as its first and most apparent use is to aid the memory with regard to a given case, it should be kept together as much as possible, and usually limited to a single page. The classification and generalization of facts would be left to a leisure hour, or the labors of some well instructed student or clerk. Any attempt to combine the two operations will be attended with loss of time, both in record and



reference; and if undertaken, either in private or hospital practice, would probably be soon abandoned.

In private practice, we would suggest as the most desirable form of record, a volume of small size (not larger than foolscap octavo), bound in flexible covers, and so arranged that each page should contain the record of a single case. The first page, serving as a title, should be partly printed, with a space for writing the name and residence of the owner, and the dates when begun and finished. The book might contain from one to three hundred pages, on thin but good writing paper. Each page should bear a printed number, to facilitate reference, and should be printed as in the form annexed. The letters in brackets are placed simply for reference to the explanatory notes subjoined. The blank spaces should be ruled horizontally for convenience in writing, and the entries should if possible be always made in ink, for greater permanence. If the practice of the physician be chiefly limited to office consultation, the record may be kept in a book of larger page, with more convenience than in a portable volume.

## [Form of a proposed Page of Record.]

3.

(a) Name \_\_\_\_\_

(b) Age \_\_\_\_\_. Civil condition. S \_\_\_\_\_. M \_\_\_\_\_. W \_\_\_\_\_

(c) Occupation \_\_\_\_\_. Place of Birth \_\_\_\_\_

(d) Disease or Injury \_\_\_\_\_

(e) Date of First visit \_\_\_\_\_

(f) Previous duration of Illness \_\_\_\_\_

(g) Treatment \_\_\_\_\_

(h) Date of last visit \_\_\_\_\_

(i) Result \_\_\_\_\_

(k) Remarks \_\_\_\_\_

## NOTES.

(a) The patient's *name* should be written out sufficiently to identify the person, and to distinguish the sex. If a child or servant, the name of parent or employer might be added in parenthesis.

(b) The *age* in years or months to be written in the first blank on this line. If months, the letter *M* should be appended. In children, the years and months might be indicated fractionally, as  $3\frac{1}{2}$ ,  $4\frac{1}{12}$ . In the blanks for "civil condition" mark "1" after S. M. or W., according as the person is single, married or widowed.

(c) *Occupation*.—This should be noted according to the circumstances of the case. Be specific in this entry, and avoid all general terms, such as "mechanic," "dealer," &c. It is better to note precisely what is applicable, and it might be proper to add the initials of the company, firm or individual by whom the patient might be employed. In children, the term "scholar," "student," &c., might sometimes apply. In other cases it would be left blank. The "place of birth" should be as specific as practicable. If in the state where the record is made, it might be the name of the town, city or county. In general it would be better to name both town and state, or country, as "Bath, Eng.," "Charleston, S. C.," &c.

(d) *Disease or Injury*.—Sufficient space should be allowed to note any complications that might exist, or if an injury to describe sufficiently the condition.

(e) *Date of First Visit*.—The year being expressed on the title page, would not be needed. The month and day of month, and in some cases the hour of the visit should be noted. Instances might occur in which the hour would be of great importance, as in case of criminal poisoning or injury. For greater convenience, a common counting-house calendar for the current year might be printed on the lining paper of the cover.

(f) *Previous duration of Illness*.—This might be stated in years, months, days or hours as most appropriate.

(g) *Treatment*.—This may be described briefly in such terms and with such abbreviations as will be perfectly understood. The dates of changes should be noted in their proper connection. In some cases the space allowed would be found insufficient, and to accommodate these, a few leaves of plain ruled paper might be



bound in at the end of the volume, to which the record might be carried in particular instances requiring it.

(h) *Date of last Visit.*—This should be the month and day. It might be convenient to add the day of the week.

(i) *Result.*—This should be specified briefly as “cured,” “improved,” “sent to hospital,” &c. If death terminates the case, note the day and hour. It would also be well to note the time and place of burial.

(k) In this space record any peculiarity or incident which the case might suggest, or any note of a business character that might be desirable. The antecedent cause, or previous form of disease, might be noted in this connection.

### OBSTETRICAL RECORD.

The practitioner would derive great benefit from a special record of his obstetrical practice, as well on account of the generalizations it might afford, as for future reference in fixing individual dates. For this purpose, we would suggest an ordinary foolscap folio on quarto blank book, ruled as in the form annexed, and to be ordinarily kept in the office desk. The table should extend across both pages, and embrace substantially the following data:

(Left Hand Page.)

No.	Name of Mother.	Residence.	Age of Mother.	Number of Pregnancy.	Duration of Pregnancy.	Hours in labor previous.	Hours in attendance.	Day and hour of birth.	Presentation.
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(k)

(Right Hand Page.)

Sex of child.	Weight of child.	Name afterwards given to child.	Remarks.
(l)	(m)	(n)	(o)

### NOTES.

(a.) This column should number continuously from the first, and, if, carried into another volume, should still be continued. It will facilitate reference, and be a matter of much convenience, as it will always exhibit the amount of experience in this department, at the date of each record.

(b.) The name of the mother should be so entered as to indicate also the husband, as "Sarah Smith, wife of John," or, if preferred, only the husband's name, with the prefix "Mrs." It would be still better if made to indicate, in brackets, the family name of the woman before her marriage, as "Sarah [Williams] Smith, wife of John."

(c.) *Residence.* This, in a city, would be the street and number. If in a rural district, the name of the town, neighborhood or village where the family reside.

(d.) The *age of the mother* should be given in the nearest year that might express it.

(e.) The *number of the pregnancy* should be entered, as "1," "2," &c., according as it might be with her the first, second, &c. All previous births, including those of still-born children, should be counted in making this entry.

(f.) *Duration of pregnancy* in months.

(g.) *Hours in labor* before the arrival of the physician.

(h.) *Hours in attendance* before the delivery.

(i.) *Day and hour of birth.* The month and year should also be noted, either on the top of the page or across the page, at the end of the year's record, in a space kept for the purpose, as found most convenient. It would generally be better to rule a line across both pages at the end of every month's entries.

(k.) *Presentation.* This might be abbreviated, as "v. to l." (vertex to left), or any well understood and *specific* record. Peculiar cases should be more fully stated in the column of "Remarks."

(l.) *Sex of child.* M. or F. for male or female.

(m.) *Weight of child.* Always understood to be without including the weight of clothing, and if weighed after dressing, an allowance should be made for the weight of the dress.

(n.) *Name afterwards given to the child.* This would often be left blank some days, weeks or months, and filled up afterwards at convenience.

(o.) Under the head of "*Remarks*," should be noted any peculiarity which the case might present, or any unusual symptoms of the mother. The occurrence of twins or monsters, the necessity of using instruments in delivery, &c., would here find their appropriate record, and should occupy such space as might be necessary in a note on the margin, or in blank pages reserved towards the end of the book.

The summary of a long course of practice recorded in this form



could scarcely fail of presenting generalizations in the highest degree interesting to the practitioner and the profession, and could not fail of being a most valuable contribution to science. The blank would apply to special institutions for lying-in women, with such modifications relative to dates of admission, duration of residence, &c., as the rules of the establishment might require. There are certain conveniences presented at these special institutions which are not readily afforded in private practice, and the record might include columns for noting the length of the funis, the weight of the placenta, and various measurements of the child, which would furnish materials for a most interesting class of results.

#### HOSPITAL RECORDS.

The facilities of a hospital admit of a more systematic record of cases than would be found convenient in private practice, and a full medical and surgical record, together with a thorough course of meteorological observation, should form an indispensable feature in the organization. To give these records that uniformity so essential to comparison, they should be made upon one settled plan, and as a rule, should aim at the most specific and concise statement of facts, in the most methodical and convenient order.

The double purpose of present use and future generalization should here be always kept prominently in view and the maxim of statistics above stated, relative to the distinct and separate methods of record and classification, should here be carefully followed, excepting in hospitals devoted to some particular specialty, in which case, the arrangement in *columns* would be found proper. For general purposes, an ordinary foolscap page would generally be found most convenient. The title page should bear the name of the hospital, the dates of beginning and of ending of the records in the volume, and the name of the person by whom the record is kept, for we deem it an important matter that the duty of keeping it should be entrusted to some one responsible and capable person, who might assist in other departments, or be himself assisted, according to the extent of the establishment.

All memoranda and prescriptions designed for record, should be handed to him, and his work should always be kept written up to date, and in condition for the easy preparation of such morning reports or other statements as the rules of the hospital might require.



The labor of condensing and tabulating the general results of his record should be done by him or under his direction, and it is needless to add, he should be a man of medical education, neat and careful in his penmanship and habit of keeping the record, and otherwise fully competent for this important trust.

The pages should be numbered and always indexed at the time of first entry. The blank spaces should be ruled for writing, and the printed portion might be in the form here annexed:

The image shows a single page from a medical record book. The page is off-white and features horizontal ruling lines. At the top, there is a faint header area, possibly containing a title or a set of instructions, though the text is illegible. The rest of the page is blank, with the ruling lines providing a guide for writing. The page is numbered '12' at the top center.

## [Form of Hospital Record.]

Page 1.

(a) No \_\_\_\_\_

(b) Name \_\_\_\_\_

(c) Age \_\_\_\_\_ Civil condition. S \_\_\_\_ M \_\_\_\_ W \_\_\_\_ Nativity \_\_\_\_\_

(d) Occupation \_\_\_\_\_ Home Residence \_\_\_\_\_

(e) When Admitted. Year 186\_\_ month \_\_\_\_ day \_\_\_\_ hour \_\_\_\_

(f) On whose application or order \_\_\_\_\_

(g) Ward \_\_\_\_ Bed \_\_\_\_

(h) Disease or injury \_\_\_\_\_

(i) Previous Duration of sickness, (on date of injury) \_\_\_\_\_

(k) Treatment.

(l) Remarks.

(m) Discharged or died. Year \_\_\_\_ month \_\_\_\_ day \_\_\_\_ hour \_\_\_\_

(n) Result \_\_\_\_\_

## NOTES.

(a) The *number* should be continuous, from the opening of the hospital, or beginning of the record, and should be carried into the next volume when the one in use is full. Cases might occur in which a new number at the beginning of a new year or a new quarter would be preferable. This number would facilitate reference to any financial accounts that might be charged to the patient.

(b) *Name*.—This to be given in full, or sufficiently to distinguish sex. Avoid all indefinite abbreviations. "J. Smith," is, for example, quite too vague a term to be recognized.

(c) *Age*.—The nearest year, or in children the year and fraction, as "36," "27," "3 $\frac{1}{3}$ ," "2 $\frac{1}{2}$ ," &c." Civil condition, to be marked "1" after S. M. or W., according as the person is single, married or widowed. The nativity should be as specific as possible, and generally the town or city, and State or country, if known.

(d) *Occupation*.—Should be given specifically, and it might be convenient to notice the street and number of his place of business. Indefinite terms, such as "mechanic," "clerk," &c., should be avoided. The "home residence" should specify street and number, or town and county.

(e) *When admitted*.—In large hospitals the year might be printed in the blank, or given once for all on the title page.

(f) *On whose application or order*.—Space should be allowed for noting any circumstances relative to his admission that might be deemed proper.

(g) The ward and bed assigned to the patient by their number.

(h) *Disease or Injury*.—The character of the infirmity which brought the patient into the hospital, should be here sufficiently described.

(i) This entry should be specific as possible, and may vary from years to hours and minutes, according as the case may be chronic or recent.

(k) *Treatment*.—This should be brief but sufficient to enable those using the record to readily identify every portion. When changed, the date should be noted.

(l) *Remarks*.—These may be varied as the case requires. In peculiar cases, a full description of the disease, injury or treatment might be required, independently of the record.

(m) *Discharged or died*.—This should be noted exactly by



crossing out with a pen one of these words, leaving the other to express the manner in which the patient's connection with the hospital ceased.

(n) The manner of discharge should be stated in this connection. The time and place of burial, delivery of remains to friends &c., might here be appropriately noted.

Practitioners, in hospitals, devoted to special branches of medicine or surgery, would find advantage in keeping a special record, adapted to their particular wants. It should always be in the tabular form, analogous to the obstetrical record already noted, and would embrace name, age, sex, nationality, residence, civil condition, and dates of beginning and end of treatment, with such other information as the subject required. The table might extend across both pages of the volume. The cases should be numbered continuously from the first, for convenience of reference, and space should be provided for remarks upon any unusual circumstances which the case might present.

The tabular method, with columns for each incident or fact having relation to the case, is particularly necessary in studying the effect of a new remedy, the result of a new process, or the character of a new disease that may come under notice. The numerical results of a course of observation thus obtained, will often acquire great significance when exhibited upon diagrams, in which horizontal distances represents periods of *time*, and vertical spaces, *numbers* or *quantities*, in the manner familiar to statisticians, and in constant use by the student in the physical sciences.

The form of hospital record giving one page to a case, affords the opportunity for a most elaborate plan of classification, embracing every desirable circumstance connected with dates, locality, cause, influences and result. These can best be shown in a tabular form, which must be collected and classified by the ordinary methods of summary and tally. A brief allusion to the latter method, in its practical workings, may not be inappropriate in this connection.

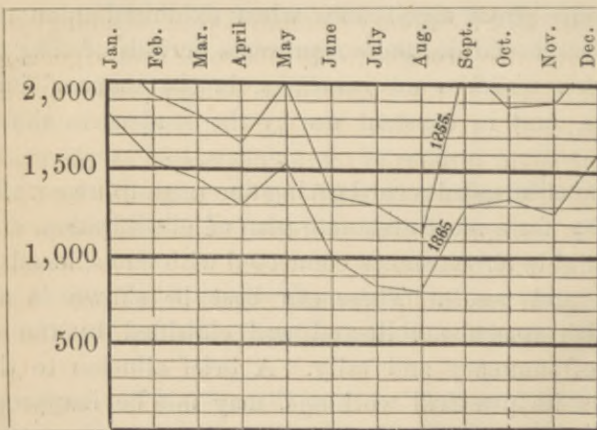
The tallies should be in groups of five, of which four are down strokes of the pen or pencil, and one across. The subdivisions of classification are written along the left hand margin of the sheet, and the tallies extend along the lines opposite. Where much of this work is to be done, paper ruled into small squares should be

used, and along the top should be printed the arithmetical series with a common difference of 5, thus:

SUBJECT OF CLASSIFICATION.	5	10	15	20	25	30	35	40
January -----								
February -----								
March -----								
April -----								

This arrangement saves the labor of counting up the tallies, and in the above sketch we observe by a glance at the top that the first line contains (36), the second (28), the third (37), and the fourth (30), without a moment's hesitation or a mental effort. Paper thus prepared for this labor-saving method, should be always kept on hand, and used where the amount of work is large. In the census and other extensive statistical labors, this is found indispensable.

*Method of Illustration by Diagram.\**



\*The above diagram contains the lines representing the marriages in New York in 1855 and 1865 by months, and shows an interesting parallelism in most of their course. Although the number for 1865, (referring to the year previous, and embracing the last year of the war), is less, throughout,—the motives or circumstances that determined the selection of months for marriage, were the same in both periods. Customs vary in this regard, and in New England, the annual gathering of families on Thanksgiving day, carries the number of marriages in November, much above that of any other month in the year.



In constructing these diagrams, but two variable elements can be represented, and these are usually *time* and *quantity*. The former is more conveniently represented by the vertical intervals, and the latter, by the horizontal spaces from the base upwards. It is often practicable to represent two different scales on the same table, in which one series of numbers is given upon each margin of the diagram, and sometimes an enlarged scale in one corner, will be useful in presenting minute variations which would be unobserved in the general scale.

In plotting several lines which intersect, colored inks or variously dotted lines may be used of the same or different colors, but sufficiently different and distinct to prevent confusion.

Instead of assigning values according to the distance of the lines from the bottom, *comparative areas* between lines may be adopted. In every event, it will facilitate reference by having every fifth or every tenth horizontal line heavier than the rest.

#### RECORD OF WOUNDS.

In military hospitals, the treatment of wounds becomes a most important duty, and in preparing a form of record, compactness and brevity become of the first importance. To secure these conditions the following method was suggested by the writer of this essay, to the U. S. Sanitary Commission at Washington, early in 1862. It was also brought to the notice of the surgeon-general of the United States, in the month of February, 1863, but in neither case did it receive favorable attention.

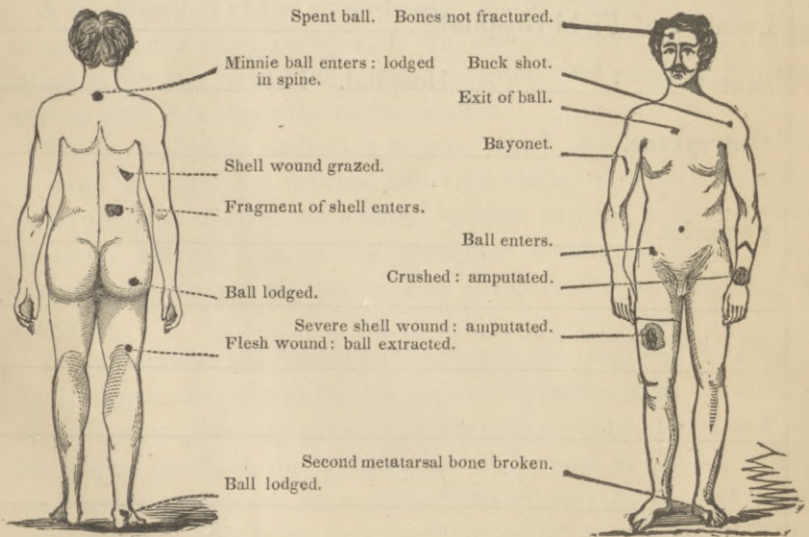
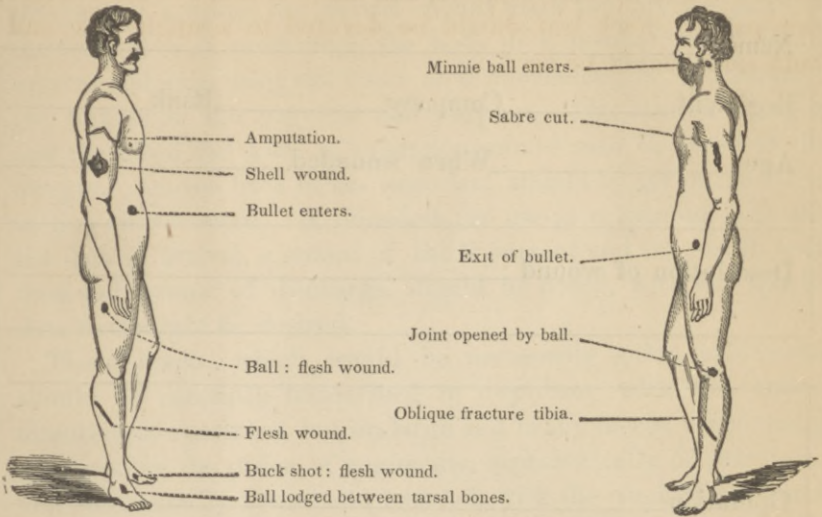
It is now again submitted to the inspection of the medical profession, and the writer is confident that it would be found, upon trial, a most comprehensive yet specific and valuable method of recording wounds and surgical operations. The occasion for its use, with us, in recording wounds received in battle, has happily passed away; yet it may still find its proper application in recording railroad and steamboat accidents, wounds inflicted by accident or with criminal intent, and generally in the various casualties which come daily under the notice of surgeons, and the treatment of hospitals. It is offered as a concise and practical form of record in all ordinary as well as extraordinary surgical practice, in which the seat of injury or of operation is external.

We will first consider this method in its application to military practice, and then notice the modifications necessary to adapt it to a common surgical and hospital record.



It is proposed that army surgeons, and officers in charge of burial parties, be furnished with a book, of size convenient for the pocket, bound in flexible covers, and made of thin but smooth and firm paper. Each leaf should be devoted to a single case, and both sides should be used.

(First Page of each Leaf.)





(Second Page of each Leaf.)

Battle, skirmish or other occasion when wounded \_\_\_\_\_

Name \_\_\_\_\_

Regiment \_\_\_\_\_ Company \_\_\_\_\_ Rank \_\_\_\_\_

Age \_\_\_\_\_ When wounded \_\_\_\_\_

Description of wound \_\_\_\_\_

Operation \_\_\_\_\_

Operating surgeon \_\_\_\_\_

Time of operation \_\_\_\_\_

Location of Field Hospital \_\_\_\_\_

Sent to \_\_\_\_\_ Hospital. Date \_\_\_\_\_

Conveyance. \_\_\_\_\_

Remarks. \_\_\_\_\_

The first page of each leaf should contain the engraved outlines of a nude human figure, in four positions, showing front, rear and side views, as shown on an accompanying page. On these figures the person keeping the record should mark the precise point of the wound, or if perforating the body or a member, the point of ingress and exit, using the figure most convenient, or, if necessary, two figures on the page for this purpose. The kind of weapon and the place and kind of operation should also be noted in the margin. On the back of the same leaf should be given the information above stated. If intended for use in a general hospital, the date of arrival, a record of the treatment and the result, with time and manner of discharge, should be noted, with any special data that might be desired.

These books, which would be necessarily soiled and worn, should be carefully transcribed in duplicate, with the utmost attention to exactness, but on large and heavy sheets, which, being arranged in the order of regiments, alphabetically or otherwise, and substantially bound and lettered, with the name of the battle to which they related, should be placed in the archives of the medical department and in the pension office. Their utility as a matter of record, as a basis for the most comprehensive generalizations, and as a safeguard against fraudulent applications for pensions, would have been incalculable.

A modification of the second page, giving residence, (street and number if in a city), occupation and circumstances, would readily adapt it for the record of current hospital and surgical practice, and as such it is urgently recommended.

We have already noticed a maxim, which should ever be borne in mind in obtaining medical and vital statistics, and have stated as a rule, that the record should be kept distinct from the classification. Having noticed the prominent conditions which should control the former, we proceed to consider the methods of the latter.

If we compare the record to the merchant's *day-book*, in which is noted down the current transactions of his business, at the moment of their occurrence, the generalization tables would correspond with his *ledger*, in which the transactions of the year, and for each party on interest concerned, are concisely stated, and the general results ascertained. This labor may be reserved for a leisure day, or can be entrusted to other competent hands. It would form a most profitable exercise to the medical student, who was sufficiently



advanced to do it justice, and when covering a wide range of experience, could not fail of contributing to our positive knowledge in medical science.

The form of tables adopted to this purpose will vary according to the views which govern their author. If he designs to study his facts, with reference to the influence of the seasons, he will arrange his data by months. If in connection with atmospheric vicissitudes he will insert meteorological tables; or if with reference to percentages of population, he will arrange them only with official data of comparison. Thus, the influence of one disease upon another, and the effects of known or suspected causes, are ascertained by varied comparison, and may in some cases involve laborious computations, and elaborate research.

It is strongly recommended that the physician should keep, or cause to be kept, by some competent person of his household who can give attention at stated hours to the task, a meteorological register, which should include at least columns for recording temperature, direction of the wind, aspect of the sky and direction of clouds, three times a day, and the fall of rain and snow in inches, measured soon after. Barometrical and hygrometrical observations would enhance the value of the series, and afford useful data for deduction and comparison, and the still more delicate observations upon electrical conditions, and the relative amount of ozone present in the atmosphere should engage attention in every well organized hospital, which has in view the most accurate observations upon the influence of external conditions in the progress of disease.

The conditions essential to health are often beyond the control of individual families, and the public interests demand the interposition of law, and the watchful guardianship of intelligent and faithful authorities to prevent the origin and spread of disease. It is here the appropriate province of the medical profession to direct attention to the evils which threaten danger, and to suggest the proper measures for relief. Here the record of facts, and skillful deduction of inferences become of primary importance, as a guide to legislation, and aid in the administration in matters of sanitary reform. The maintenance of health is not less within the province of the physician's duties than restoration from disease, and his beneficent mission is never more nobly performed than in the successful accomplishment of this end.

The registration of births, marriages and deaths by official authority, has for many years claimed the attention of enlightened governments, and the results have already enriched the treasury of knowledge by their ample contribution of facts. The deductions from these records have formed the basis of computations for life insurance, and present the elements of nearly all we know with certainty concerning the probabilities of life at different ages, the origin, range and mortality of epidemics, and the influence of age, sex, locality and season upon disease. Through this means alone, we can obtain reliable data concerning these three important eras of human life, upon which so much happiness or misery depends, and in the knowledge of which we may derive many benefits.

The first and most apparent advantage of an official registration of births, marriages and deaths, as a means of determining with legal certainty these events upon which the transfer and inheritance of property constantly depend, should alone have sufficient weight to demand attention, even were there no scientific deductions to be drawn from the result. Yet unfortunately the State of New York has hitherto been without a registration system that could secure the attention and respect of officials; and although a statute designed to secure this object has stood twenty years upon her statute book, its provisions have, during nearly the whole of this period, been contemptuously ignored. The demoralizing tendency of dead-letter laws should at least incite our Legislature to repeal an enactment which cannot be enforced. It is earnestly hoped that another and better system will be enacted and put in operation. We will notice some conditions that appear essential to success, and propose a form which we believe to be adapted to our wants, and within our means of attainment.

The duties should not be too much subdivided, nor too much centralized. By the former, we run the risk of employing many who do not appreciate or understand their duties; and by the latter, we impose a burden which cannot be borne. For example, the registration law of 1847, still nominally in existence, required school district clerks, or if none, one of the trustees of each school district, to ascertain and report annually, all births, marriages and deaths occurring in his district. This was decidedly too great an extenuation of the system.\* Had the duty of recording these

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\* A fatal error in this plan would be encountered in parts of districts where a school is maintained by two or more towns, and in which more or less territory would be liable to



facts been left with the county clerk, the error should have been still greater on the other side.

As our towns and counties are organized, we believe the *town clerk*, and in cities a *special officer* should be selected to perform this duty. The law of 1847 fixed no stated compensation for services, and left the payment to the chances and caprice of the town auditors. This was the second and perhaps the greatest error of the system, for we hold as a general rule, that men chosen to an office that depends upon fees for the emoluments, will render but few gratuitous services. The fee for registration should be fixed by law, and its amount in the aggregate should be sufficient to compensate the officer for his services in this department during the year. It should still, however, depend upon its fullness and accuracy, and the record should be annually examined by a competent authority with the view of ascertaining these facts.

We regard the law of 1847 as defective in another important particular. It required the town clerks to furnish *abstracts* to the county clerks, and the latter to furnish a summary of their county by towns to the Secretary of State, by whom a general table was made up from the county footings and transmitted to the Legislature.

Experience has shown that abstracts thus prepared by numerous persons having no communication with each other, and often with conflicting views of the construction to be placed upon doubtful points, cannot possess, when brought together, that uniformity which is essential to utility. Nor will the abstracts thus prepared afford those careful generalizations which modern science demands. The correct returns of deaths would embrace professional terms, which would embarrass a person not familiar with the subject. In short, we recognize but one method of generalization, which should be all done under one direction and in a central office. Here the labor can be done with uniformity, with greater economy, and with far better results.

It will be observed that in the bill annexed, there is created a Special Department of Statistics, with a responsible head, who holds by official appointment of the Governor and Senate for a term of years, and independently of any office now existing. This

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escape record. In large villages and in cities having special school systems, the method now prescribed would prove wholly inapplicable, and the operation of the law becomes impossible.

feature is regarded as of the first importance, for it is a matter of strong probability that a man of energy and executive talent would urge into operation a system with the success of which his own character and reputation was connected, and on which they depended.

It happens to be within the knowledge of the writer of these pages, that the system of registration provided in the law of 1847, was placed in the hands of an indolent and inefficient clerk in the Secretary's office, who would seldom if ever look after delinquent returns, and was never so well pleased as when the county clerks failed to make their returns.

The name of the superintendent should be associated with his office in such a manner, that he would feel the immediate dependance of his own reputation upon the success of his labors. With this, the original law would be made to succeed, or it would be modified by experience until it becomes a success. As an appendage to an existing office, and in charge of a clerk whose name is not associated publicly with it, it never can succeed.

The essential ideas of the bill proposed are, a central and responsible control—a local registration in every city and town—a sufficient compensation by fees (and not salaries)—ample penalties, in part payable to the person who is required to prosecute and the remainder to aid in carrying on the registration—full reports and the original certificates for the central office—their preservation and accessibility for judicial purposes, and an annual summary to the legislature.

The metropolitan district is excepted from the operations of the proposed law, because already provided with an efficient organization adequate for the purpose, and promising ultimately complete success. This system is made tributary to the central office, and subject to its control for the purpose of securing uniformity. The expenses of fees and records are assigned to the cities and towns, but all blanks are provided by the State, and will therefore be uniform. The subjects of record are specified, but with power with the superintendent to modify and extend the details, and this reservation is ample to secure all records that can be reached. For example: there will be seen nothing in the act regarding the report of still born births, yet such a measure was under consideration in framing the bill, yet from its novelty in the popular idea of statistics its operation was concealed among the latent powers of the general office.



The simple fact that such and such requirements are made a law, will, when often and properly presented, at length become impressed upon a community, until acquiescence becomes a matter of course. The public would, under an efficient direction, become well informed of the purposes and requirements of a registration system, and gradually become obedient to its provisions, and sensible of its conveniences.

The central office, in the bill proposed, has the sole power of furnishing certified copies of the records of which alone it holds the original certificates. A fee is attached to the certified copies which may be required, and the proceeds are turned into the State treasury. It is not improbable that these fees would in a few years become an important item, and do much towards defraying the cost of maintenance, if they did not render it self-sustaining. These certificates would be needed in courts, and after a certain lapse of time might be made an essential link in the chain of evidence to prove the validity of bequests, the legality of marriages, and whatever else depends upon the legal rights of natural heirs. The code Napoleon, has long since given a vigilant and effective system of this kind to France, and the principle under some form has been woven into the policy of most enlightened governments in Europe. It is to be hoped that the several States of the American union, and the State of New York in particular may at no distant day realize the benefits of the system, and that by the aids to our knowledge of vital statistics, which it will unfold, the world will be benefited, and human life prolonged by the discovery of the causes which tend to shorten it.

[*Form of a Bill recommended.*]

AN ACT for the Registration of Births, Marriages and Deaths.

*The People of the State of New York, represented in Senate and Assembly, do enact as follows :*

SECTION 1. There shall hereafter be maintained a registration of births, marriages and deaths, in the several towns and cities of this State; and to secure this object, there is hereby created a department, which shall be known as the Department of Statistics.

§ 2. Within one month after the passage of this act, and every three years thereafter, the Governor, with the advice and consent of the Senate, shall appoint a proper person to have charge of this department, who shall be known as the Superintendent of Statistics. He shall receive a salary of \_\_\_\_\_ dollars, payable quarterly, and shall have an office in such building belonging to the State, as the trustees of the capitol may assign him.

§ 3. The Superintendent of Statistics shall prepare a seal, and after a description and impression of this seal shall have been duly filed in the Secretary's office, it shall be received in courts as evidence of the authenticity of any paper to which it may be attached, in the same manner and to the same extent as other official seals of State departments.

§ 4. The common council of each city in this State, excepting the cities of New York and Brooklyn, within one month after the passage of this act, and every three years thereafter, shall appoint a proper person to perform the duties required by this act, who shall be called the City Registrar of births, marriages and deaths. He



shall keep an office, and receive such compensation for his services as are hereinafter provided.

Town Clerks' to act as Registrars.

§ 5. The town clerks of the several towns of this State are hereby required to perform the duties directed by this act in their respective towns, and shall receive such compensation therefor as is hereinafter provided.

Blanks to be prepared by Superintendent of Statistics.

§ 6. The Superintendent of Statistics shall, as soon as practicable, prepare and forward to the several county clerks of this State, proper blank forms for certificates of marriages and deaths, together with such instructions as he may deem necessary, which said blanks and instructions shall be immediately forwarded by them to the several town clerks and city registrars of their respective counties.

Births, Deaths and Marriages to be recorded.

§ 7. It shall be the duty of the several town clerks and city registrars, upon receiving such blank forms and instructions, to thenceforth record all births, marriages and deaths, that may occur in their respective towns or cities, in such manner as the Superintendent of Statistics may direct.

Duty of the head of a family on occasion of a birth.

§ 8. It is hereby declared the duty of the head of every family in which a birth may occur, within ten days thereafter, to report the same to the town clerk or city registrar of the town or city in which he may reside, under a penalty of ten dollars. This penalty shall be recovered by the town clerk or city registrar, before any magistrate or court having jurisdiction in cases of fines and penalties, as now provided by law. One-half of this fine shall be paid to the town clerk or city registrar, at whose instance the suit was brought, and the remainder shall be paid into the county treasury.

Penalty for not reporting births.

Physicians and Midwives to keep a Register.

§ 9. It shall be the duty of every physician and of every midwife, professionally attending at a birth, to keep a record of the same, which record shall embrace the names of the parents, their ages, color, and place of residence (if in a city, the street and number), the date

of birth, the sex ; and, where this is practicable, the name afterwards given to the child. This record shall be shown, upon application, to the town clerk or city registrar, to enable him to perfect the record required in the next section of this act.

Register to be shown to Town Clerks and City Registrars.

§ 10. It shall be the duty of the several town clerks and city registrars, in case of failure to report by the head of the family, as above provided, to ascertain from the records of physicians and midwives, and from such direct inquiries as he may be able to make ; and it is hereby declared his duty to record in a book to be provided for the purpose, the following facts concerning every birth that may occur in their respective towns and cities, namely : The names, ages and nationality or birth-place of both parents; the residence of the family, and if in a city or village, the name of the street and number of the dwelling ; the occupation of the head of the family ; the time of birth, sex and name of the child, and such other facts as the Superintendent of Statistics may prescribe. He shall also note in his record the date on which it is made, and the name of the person from whom the information is received.

Town Clerks and City Registrars to obtain Statistics of Births if not reported.

Facts to be ascertained concerning Births.

Date of report and name of persons giving information.

§ 11. For every record of a birth, made upon the report of the head of a family, the town clerk and city registrars shall be entitled to receive the sum of twenty-five cents, and for every record made upon his own inquiry, the sum of fifty cents, which shall be audited and paid in the same manner as other town and city expenses, by the town or city in which the births may have occurred. The record of births shall be submitted to the auditing board for examination, whenever the claims herein allowed are presented.

Fees for recording Births.

Record to be submitted to town or city auditing Board.

§ 12. It shall be the duty of every clergyman or civil officer before whom a marriage is solemnized, and of every clerk of Societies of Friends in whose presence a marriage is declared, to furnish to the bridegroom a

Duty of clergymen and civil officers in case of Marriages.



certificate of such marriage, in which shall be stated the full names of the husband and wife, the age, color, place of birth, and previous civil condition of each, which said certificate shall be signed by the person giving the same (specifying the capacity in which he acts), and shall be dated with the date of the marriage and signed by two witnesses. For this certificate, the clergyman, civil officer or clerk shall be entitled to receive one dollar from the party to whom the same shall be delivered.

Fee for reporting  
Marriages.

Duplicate certifi-  
cates of Marri-  
ages to be filed  
with Town  
Clerk or City  
Registrars.

§ 13. A duplicate copy of the certificate shall be prepared and signed at the same time and place, and in the same manner as above required, which said duplicate shall within ten days after the marriage be filed in the office of the town clerk or city registrar, by the clergyman, civil officer or clerk by whom it is prepared, under a penalty of twenty-five dollars for each case of neglect, which penalty shall be sued and collected in the same manner as provided in the eighth section of this act. Ten dollars of the penalty shall belong to the town clerk or city registrar at whose instance it is collected, and the remainder shall be paid into the county treasury.

Penalties for neg-  
lect.

Certificates to be  
endorsed and  
recorded.

§ 14. The town clerks and city registrars upon receiving said certificates of marriage, shall indorse thereon the date of receipt and the name of the person by whom they are delivered. He shall record the information contained in the said certificates and the indorsement in a book to be provided for the purpose, and in such form as the superintendent of statistics may direct, and for every such record he shall be entitled to the sum of twenty-five cents, to be paid by the city or town as other city and town expenses are now paid.

Fee for record-  
ing.

Town Clerks and  
City Registrars  
to report them-  
selves, in case  
of default.

§ 15. In case of failure to report as provided in the thirteenth section of this act, it shall be the duty of the town clerks and city registrars to ascertain by

inquiry, within one month, and to record all marriages which may have occurred in their respective towns and cities. They shall also fill out, according to the best information they can obtain, one of the certificates mentioned in the twelfth and thirteenth sections of this act, which said certificate he shall sign and indorse with the reasons which made it necessary, and he shall file the same with the other certificates reported to him by clergymen, civil officers and clerks, under the thirteenth section of this act. He shall also record these certificates thus prepared by himself, in the record of marriages kept by him. For every such certificate prepared and recorded by him, the town clerks and city registrars shall be entitled to the sum of fifty cents, to be paid as other town and city expenses are now paid.

Record of Marriage certificates and fees there for.

§ 16. It shall be the duty of every physician attending upon a case of sickness or injury that may result in death, and of every coroner who may be called upon to inquire into a cause of death, to furnish before burial to the undertaker or person having charge of the burial, a certificate duly signed by himself, in his proper name, and specifying the capacity in which he acts. This certificate shall contain the name of the deceased, the sex, color, age, time and cause of death, duration of sickness, place of birth, occupation and civil condition. If not the head of a family, it shall mention the name of such head. It shall also state the residence, and if in a city, the name of the street and number of the dwelling where the death occurred. The superintendent of statistics shall determine the form of the certificate, and may, at his discretion, require other inquiries to be answered therein.

Deaths.

Duties of Physicians and Coroners.

Statistics to be recorded.

§ 17. It shall be the duty of the person acting as undertaker, or having charge of a burial, within twenty-four hours after receiving from the physician or coroner the certificate mentioned in the preceding section of this act, to add thereto, over his own proper signature, a

Duties of Undertakers.



Certificates of the time and place of burial.

certificate of the time and place of burial; and within five days after receiving the same, to file said certificate in the office of the town clerk or city registrar of the town or city in which the death shall have occurred.

Reports of deaths on board of vessels.

§ 18. It shall be the duty of every commander of a vessel, within twenty-four hours after his arrival at any port in this State, to report concerning every death which may have occurred on board his vessel at sea, or on the frontier lakes, during the voyage just ended. This report shall embrace as far as possible the information specified in the sixteenth section of this act. It shall also contain the name of the vessel, and the nationality of her register. This report shall be made, if in the port of New York, to the Metropolitan Board of Health, and if elsewhere, to the office of the town clerk or city registrar where the vessel may arrive.

To whom these reports are to be made.

Keepers of Prisons, Asylums and Hospitals to report of this.

§ 19. It shall be the duty of the keepers of prisons, and superintendents of asylums and hospitals, to report within twenty-four hours, to the town clerks or city registrars of their respective localities, all births and deaths occurring in their establishments, with the details mentioned in the tenth and sixteenth sections of this act.

Fees for reporting Deaths.

§ 20. For every certificate of a death, the physician or coroner preparing the same shall be entitled to a fee of fifty cents, to be paid by the city or town in which the death occurred. For every neglect to report, they shall be liable to a penalty of twenty-five dollars, to be sued, collected and applied as provided in the thirteenth section of this act.

Penalties for failure to report deaths on board vessels.

§ 21. The masters of vessels and the keepers of prisons, asylums and hospitals, shall be liable to a fine of twenty-five dollars for every neglect to report, as required in the eighteenth and nineteenth sections of this act, which said penalties shall be collected and applied as provided in the last preceding section.

§ 22. In every case of death in which no physician or coroner has attended, or where the physician or coroner shall have neglected to furnish the certificate required in the sixteenth section of this act, it shall be the duty of the undertaker, or other person having charge of the funeral, to prepare himself a certificate, containing the information above required, and the certificate of the time and place of burial, together with the reasons for his making such report. For receiving and transmitting a physician's or coroner's report, and adding thereto his certificate of time and place of burial, the undertaker or other person thus serving, shall be entitled to the sum of twenty-five cents, and for every certificate prepared wholly by himself, the sum of fifty cents, to be paid by the town or city in which such death may have occurred. For every neglect to transmit, or to prepare and transmit, a certificate as hereinbefore required, the undertaker, or other person having charge of a funeral, shall forfeit and pay the sum of twenty-five dollars, to be sued, collected and applied as provided in the thirteenth section of this act.

Undertakers required to make inquiries concerning deaths not reported to them.

Fees for recording deaths.

Penalties of Undertakers for failure to report.

§ 23. It shall be the duty of the several town clerks and city registrars, to prepare and file in their respective offices certificates of every death that may occur within their respective towns and cities, and not reported as hereinbefore required. Such certificates shall embrace the information specified in the sixteenth section of this act, together with the time and place of burial and the reasons for his preparing the report, and for every case of death thus ascertained and reported, the said town clerks and city registrars shall receive the sum of fifty cents.

Town Clerks and City Registrars to make reports upon their own inquiry in certain cases.

Fees for such reports.

§ 24. The town clerks and city registrars shall, without delay, record and index all returns of deaths made as hereinbefore provided, in books suitably arranged for this purpose. The date of the receipt of certificates of deaths and the names of the persons from whom

Deaths to be recorded.



received, shall be indorsed upon said certificates and recorded in his book.

Fees for recording or indexing.

§ 25. For recording and indexing every certificate of a marriage or a death, the town clerks and city registrars shall be entitled to the sum of twenty-five cents, to be paid by the city or town as other city or town expenses are now paid.

Penalties for failure to record Births, Marriages & Deaths.

§ 26. For every failure to ascertain and record births, marriages and deaths, the town clerk or city registrar so neglecting or refusing to act, shall forfeit the sum of twenty-five dollars, to be collected in a suit by the district attorney of the county in which he resides, and paid into the county treasury.

Judges to charge Grand Juries.

§ 27. It shall be the duty of judges in their charge to grand juries to instruct said juries to make inquiries into cases of neglect of town clerks and city registrars, in the performance of duties required in this act, and to present for trial all such as may appear guilty of such neglect.

Reports to be made annually to the State Superintendent of Statistics.

§ 28. The town clerks and city registrars, shall within ten days after the beginning of each civil year, transmit to the county clerks a copy of their several records of births, and the original certificates of marriages and deaths filed in their office during the preceding year, and shall accompany the same with a statement of the number of certificates of each kind thus forwarded. They shall also prepare an index to their several volumes of records.

Duties of County Clerks.

§ 29. The several county clerks, shall on or before the first day of February of each year, transmit to the Superintendent of Statistics, the returns received from town clerks and city registrars for the preceding year, and shall accompany such returns with the names and address of such town clerks and city registrars as may

have failed to report. For receiving and transmitting blanks and returns, the several county clerks shall be allowed such compensation as the board of supervisors shall deem just, which shall be paid as other county expenses.

Compensation of  
County Clerks.

§ 30. The board of supervisors in the several counties shall annually apply the moneys collected as penalties and deposited in the county treasury, towards defraying the expenses incurred under this act, in the several towns where the same shall have been collected.

Moneys arising  
from fines to be  
spent in paying  
fees.

§ 31. The town clerks and city registrars shall furnish blanks to be provided by the Superintendent of Statistics, to such clergymen, civil officers clerks, physicians, coroners, undertakers, and other persons as may have occasion for their use.

Blanks to be kept  
and furnished  
upon applica-  
tion.

§ 32. The Superintendent of Statistics shall acknowledge by mail, to the several town clerks and city registrars, the receipt of their annual returns, stating therein the number of births, marriages and deaths reported by each. This receipt of the Superintendent of Statistics shall be a voucher for the further payment of ten cents for each birth, marriage and death reported by the several town clerks and city registrars, which additional sum is intended as a compensation for the labor of preparing and reporting for the year, and shall be paid by the town or city, as other town and city expenses are now paid.

Receipts of State  
Superintendent  
to entitle Clerks  
and Registrars  
to further com-  
pensation.

§ 33. The Superintendent of Statistics shall have power to prescribe the form in which records of births, marriages and deaths shall be made by the Bureau of Records and Vital Statistics of the Metropolitan Board of Health, and a transcript of such record shall be furnished annually for the statistical department hereby created; but with this exception the present act shall not apply to that portion of the State, now within the jurisdiction

Bureau of Re-  
cords of the Me-  
tropolitan Board  
of Health.



City of New York otherwise ex-  
cepted. of the said Board of Health, provided, however, that the reports of masters of vessels, shall be made as required in the eighteenth section. The expense of making the returns required in this section shall be defrayed by the cities of New York and Brooklyn, and by the several towns embraced in the Metropolitan police district, in proportion to the number reported from each.

Annual Report of State Superintendent of Statistics. § 34. The Superintendent of Statistics shall report annually to the Legislature, within ten days after the beginning of its session, a printed statement of the births, marriages and deaths returned to him by the several town clerks and city registrars, and by the Bureau of Records of the Metropolitan Board of Health, during the preceding year, together with such statistical summaries and deductions as he may deem proper.

Original Returns to be bound for preservation. § 35. The Superintendent of Statistics shall cause the original returns of births, and certificates of marriages and deaths, to be bound, for preservation in his office, and shall have power to furnish copies of any record in his office, to be made and certified, over his signature and seal. Copies thus authenticated may be used as presumptive evidence of the facts therein stated, before any court of this State. A fee of one dollar shall be collected for each certified copy furnished by the Superintendent of Statistics, which fee shall be paid into the State treasury. A fee of twenty-five cents shall also be charged for search in the indexes, for every year embraced in the search, which fee shall also be paid into the State treasury.

Certified copies to be furnished and the fees to be paid into the State Treasury. § 36. The Superintendent of Statistics shall be allowed the necessary clerks, not exceeding two, and such expenses for printing, postage, express charges, and incidental expenses as may be necessary for the proper discharge of his duties.

Clerks to be allowed. § 37. The duties now required by law to be performed by the Secretary of State, with regard to the State census, shall hereafter be performed by the Super-  
Census duties transferred to Department of Statistics together with Records.

intendent of Statistics, and the records relating to the census now in the Secretary's office shall be transferred to the department hereby created.

§ 38. The Superintendent of Statistics shall perform such other statistical labors as the Legislature may from time to time require. Other statistical labor may be required.

§ 39. The act entitled "An act providing for the registry of births, deaths and marriages," passed April 28, 1847, is hereby repealed. Act of 1847 repealed.

§ 40. This act shall take effect immediately. This act to take effect on its passage.