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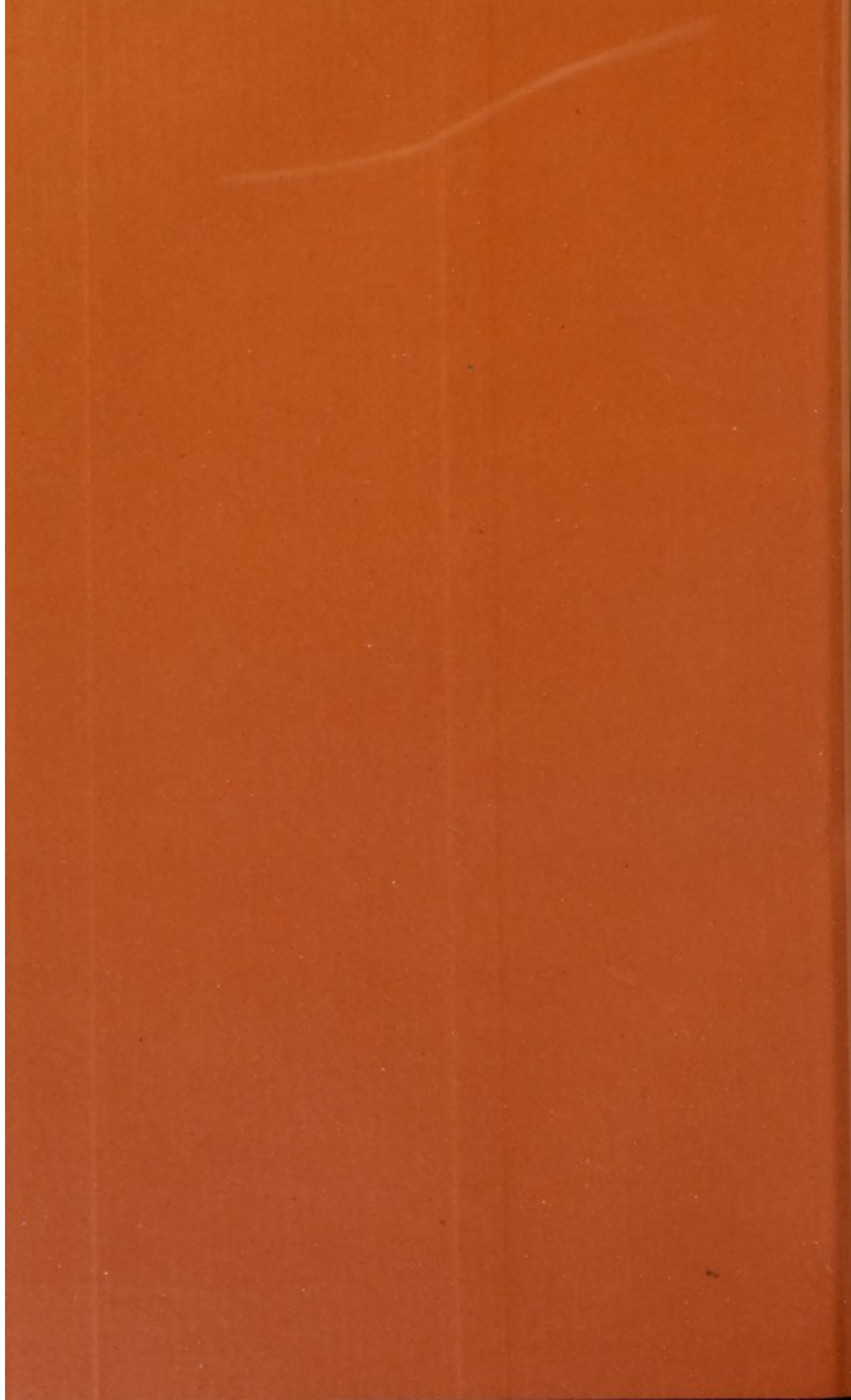
FORMS OF TABLES

— OF —

VITAL STATISTICS

WITH SPECIAL REFERENCE TO

The Needs of the Health Department of a City.



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WITH SPECIAL REFERENCE TO

The Needs of the Health Department of a City.

BY

JOHN S. BILLINGS, M. D., LL. D.,

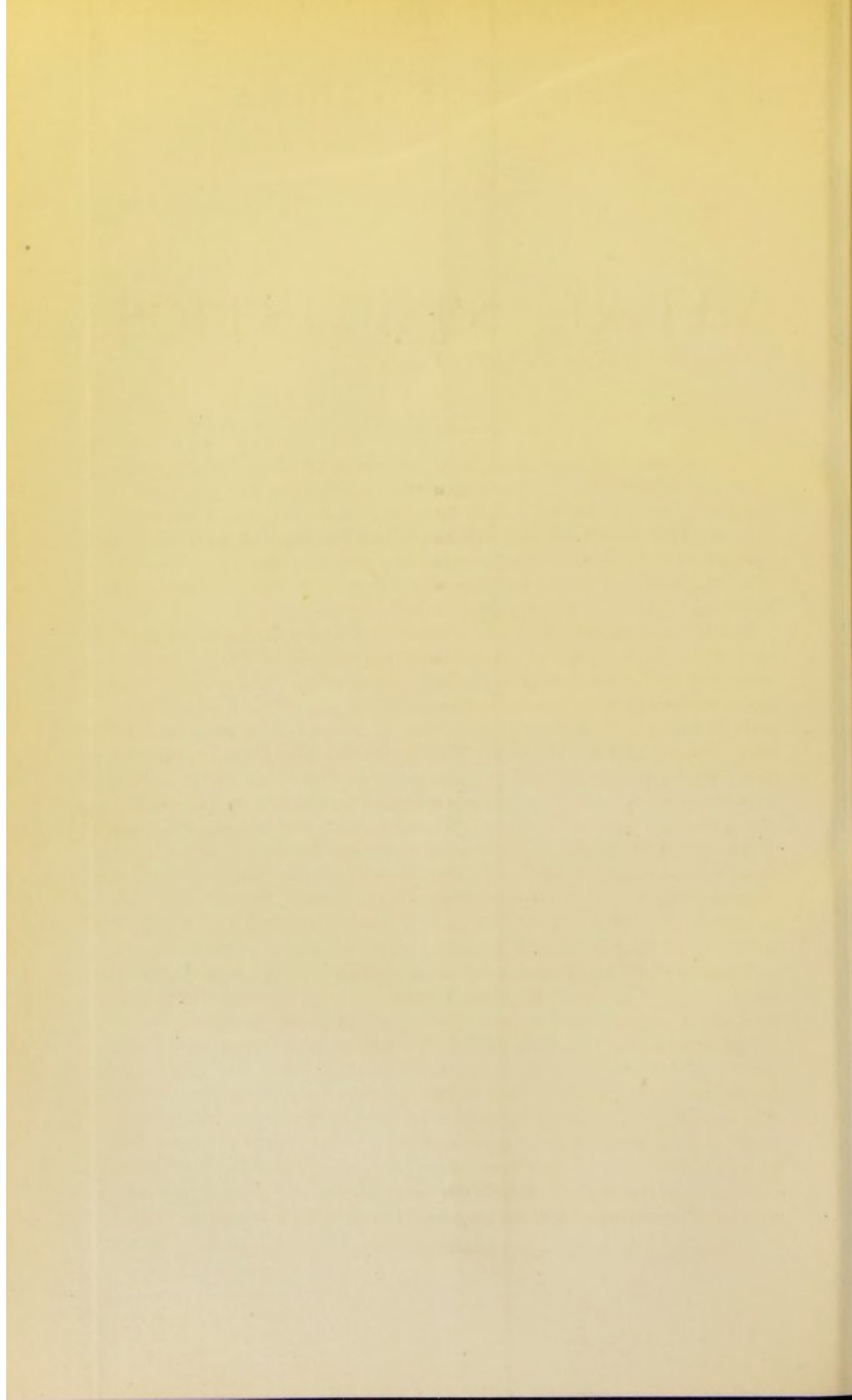
Surgeon U. S. Army.

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1888.



ON SOME FORMS OF TABLES OF VITAL STATISTICS, WITH SPECIAL REFERENCE TO THE NEEDS OF THE HEALTH DEPARTMENT OF A CITY.

As the committee on the preparation of forms of tables for vital statistics, appointed at the last meeting of the Association, has not found it possible to have a meeting during the year, I have prepared a few forms of such tables, which are herewith submitted, thinking that another committee may be appointed whose residences may be sufficiently near each other to permit of occasional meetings during the year, and that these forms may serve as a starting-point for discussion.

The forms presented should be considered in connection with the paper on "Methods of tabulating and publishing records of death" which I presented to the Association in 1885.¹ They relate only to a city, and are intended especially for the information and use of the health department of a city, and to include such data as it seems to me that sanitary officers would find most useful. They do not include all the forms which such officers will need, nor by any means all the forms which a vital statistician would desire;—they are intended to indicate to the sanitary officer the localities in his city in which the death rate is greatest; some of the principal causes or circumstances connected with this increased death rate; and, especially, as to how far it is due to causes or circumstances which may probably be controlled or avoided. Such information is needed by health officials, whether it is to be published or not, and, while its publication is very desirable, both as a means of educating the community to which it relates, and as a contribution to sanitary science for the benefit of other localities, I have not kept in view the precise forms in which it should be published, in the preparation of these tables.

The first two forms which I submit are compilation sheets, No. 1 and No. 2. Compilation sheet No. 1 is intended to show the number of deaths from each cause, in each month, in each ward of the city, occurring in each sex, at certain groups of ages, with the further distinction, where it is required, of color and parentage. As the name indicates, this form is intended for compilation rather than for publication; it is meant to be the current record to which the health officer can at all times resort for any information which he may desire with regard to deaths in his

¹ Public Health Papers and Reports, American Public Health Association, Vol. XI, p. 51.

city. One of these sheets is to be kept constantly checked, as the deaths are reported for each ward during each month. Twelve such sheets would therefore be required for each ward and for the whole city during the year. In those cities in which the proportion of the colored population is five per cent. or more of the whole, I would recommend that separate sheets be made for the white and colored for each ward during each month. In like manner, when the proportion of those of Irish parentage or of German parentage in the city is five per cent. or upwards, I would recommend that separate tables on this form be kept for each of these classes as well as for the whites of American parentage. The names of causes of death given in this sheet, and their classification, are, in the main, those used by the registrar-general of England, in accordance with the last edition of the nomenclature of the Royal College of Physicians in London. I have, however, transferred to the specific diseases all the forms of tubercular disease and tetanus.

Compilation sheet No. 2 is intended to show for the city, and for each ward in the city, the number of births during the year, and the estimated population in the middle of the year, with distinction of parentage, color, age, and sex. The difficulties in filling out this sheet at the present time will be great, and there is probably no city in the United States in which it can be more than very incompletely filled. Nevertheless, it is a matter of great importance to sanitary science that such data should be obtained and noted, and, if proper arrangements are made, as can easily be done when the next United States and state censuses are taken, the foundation can be obtained for such a table; and after such a foundation has been gotten, it can be kept up with sufficient accuracy by simple mathematical computations.

Table No. 1, showing the relative healthfulness of the city and of its several wards for the year, is made up from the compilation sheets above referred to. This table presents to the sanitary officer a bird's-eye view of the healthfulness of different parts of the city and of the different classes of its population, and, if the data in the compilation sheets have been obtained and entered with a reasonable amount of accuracy, it will afford a positive scientific foundation for sanitary recommendations and sanitary work. That the preparation of this table will involve a considerable amount of labor in computation of ratios is true; but by the use of Thatcher's slide rule this labor may be much lessened. Such computations are essential to bring the data into such shape that they can be compared.

For all cities having a population of 200,000 and upwards, and for all states which have a registration of deaths sufficiently complete to make it worth while to compile the statistics, I recommend that the data for each individual death be recorded, as fast as reported, upon cards by punching out holes. Several members of this Association have seen the system of cards, and the machine for counting any desired combination of data from these cards, which has been devised by Mr. Hermann Hollerith, and which is now in Washington. It is comparatively simple,

not liable to get out of order, and does its work rapidly and accurately. I have watched with great interest the progress in developing and perfecting this machine, because seven years ago I became satisfied that some such system was possible and desirable, and advised Mr. Hollerith, who was then engaged on census work, to take the matter up and devise such a machine as is needed for counting various combinations of large numbers of data, as in census work or in vital statistics. I think that he has succeeded, and that compilers of demographical data will be glad to know of this system. I append to this paper two specimens of cards used by him, one for a compilation of data for the city of Baltimore, the other for the compilation of certain data for the registrar of the state of New Jersey; also the plan and description of a card furnished by him to show the scope of the system. Upon either of these cards, by punching holes in the proper places, as indicated by the words, letters, and figures on the card, may be indicated the sex, age, color, parentage, marital condition, occupation, ward of residence, and month and cause of death of one person. The precise data and the minuteness of sub-division may vary: thus, the ages may be recorded by single years or by groups of five years, and the number of causes of death specified may be 30 or 300.

When it is desired to classify these data and count them for the purpose of making up tables, these cards are passed directly through a machine which, by a series of counting dials, registers such combinations as are desired. For instance, the machine may be set to count the number of deaths at each age in each ward, or the number of deaths from each cause in each color, etc. As the cards leave the machine they go into an electrical sorting box in such a way that all the cards of each ward, or of each group of ages, or of each parentage, are brought together in one box, and can then be again passed through the machine readjusted to a new combination of circumstances. It is not my purpose, however, to describe the machine, but only to call attention to it, and to the fact that the existence of such a machine is a strong additional reason for the use of the card system of record for statistical computations. The punched cards cannot, of course, take the place of the written registration records which are required for judicial purposes,—they are an addition, and not a substitution,—but the facilities which they give for statistical work are so great that I advise their use in all cases, no matter whether they are to be counted by machinery or not. Cards of different colors, to indicate sex, etc., will be found desirable.

Zoögenous Diseases—total.

Hydrophobia.....
 Splenic fever.....
 Glanders.....
 Other diseases of this class.....

Veneral Diseases—total.

Parasitic Diseases—total.

Hydatids.....
 Other diseases of this class.....

Dietic Diseases—total.

Starvation.....
 Scurvy.....
 Intemperance.....

Constitutional Diseases—total.

Acute rheumatic fever.....
 Gout.....
 Rickets.....
 Cancer.....
 Purpura.....
 Anæmia and chlorosis.....
 Leukæmia.....
 Diabetes mellitus.....
 Other diseases of this class.....

Developmental Diseases—total.

Premature birth.....
 Atelectasis.....
 Cyanosis.....
 Spina bifida.....
 Imperforate anus.....
 Cleft palate, hair-lip.....
 Other congenital defects.....
 Old age.....

Diseases of the Nervous System—total.

Inflammation of the brain.....
 Meningitis.....
 Apoplexy.....
 Paralysis.....

At least one of these compilation sheets is to be used for each ward each month. If in any ward the number of colored, of Irish, or of Germans is five per cent. or more of the population, it is recommended that a separate sheet be kept for each class as well as one for the whole. At the end of the month the ward sheets should be consolidated on one sheet of the same kind which will form the monthly sheet for the city. At the end of the year the monthly sheets for each ward, and also those for the whole city, should be consolidated on similar sheets, which will be the yearly reports.

Bright's disease.....
Calculus, urinary.....
Diseases of the kidney.....
Diseases of the bladder.....
Other diseases of this group.....
<i>Diseases of the Female Organs of</i>
<i>Generation—total.</i>
Ovarian tumors.....
Ovarian diseases.....
Uterine tumors.....
Uterine diseases.....
Other diseases of this group.....
<i>Affections connected with Pregnan-</i>
<i>cy—total.</i>
Abortion.....
Childbirth (It is desirable to note
all deaths of women occurring
within one month after child-
birth, no matter to what cause
they are attributed).....
Other diseases of this group.....
<i>Diseases of the Bones and Joints—</i>
<i>total.</i>
Diseases of the spine.....
Diseases of the bones.....
Diseases of the hip joint.....
Other diseases of this group.....
<i>Diseases of the Skin and Cellular</i>
<i>Tissue—total.</i>
Abscess.....
Carbuncle.....
Other diseases of this group.....
<i>Diseases of the Absorbent System—</i>
<i>total.</i>
Addison's disease.....
Disease of the spleen.....
Other diseases of this group.....
<i>Accidents and Injuries—total.</i>
Burns and scalds.....
Drowned.....
Exposure and neglect.....
Gunshot wounds.....
Homicide.....
Infanticide.....
Injuries by machinery.....
Railroad accidents.....
Suffocation.....
Suicide by shooting.....
Suicide by drowning.....
Suicide by poison.....
Other suicides.....
Sunstroke.....
Surgical operations.....
Wounds.....
Other accidents and injuries.....

At least one of these compilation sheets is to be used for each ward each month. If in any ward the number of colored, of Irish, or of Germans is five per cent. or more of the population, it is recommended that a separate sheet be kept for each class as well as one for the whole. At the end of the month the ward sheets should be consolidated on one sheet of the same kind which will form the monthly sheet for the city. At the end of the year the monthly sheets for each ward, and also those for the whole city, should be consolidated on similar sheets, which will be the yearly reports.

Whites of Irish parentage.....	{ M. F. Total....
“ German parentage	{ M. F. Total....
“ all other foreign parentages. {	M. F. Total....
“ Total.....	{ M. F. Total....
Colored.....	{ M. F. Total....
Living in tenement-houses.....	{ M. F. Total....
WARD 2.	{ M. F. Total....
Whites of American parentage	{ M. F. Total....
“ Irish parentage	{ M. F. Total....
“ German parentage.....	{ M. F. Total....
“ all other foreign parentages. {	M. F. Total....
“ Total.....	{ M. F. Total....
Colored.....	{ M. F. Total....
Living in tenement-houses.....	{ M. F. Total....

	WARDS.					Total for City.
	1	2	3	4	5	6
Area in acres.....						
Number of dwelling-houses.....						
Miles of streets.....						
Miles of sewers.....						
Number of privy vaults.....						
Number of wells.....						
Total population.....						
Total number of deaths, excluding stillbirths.....						
Death-rate per 1000.....						
Population under five years of age.....						
Number of deaths under five years of age, excluding stillbirths.....						
Death-rate under five years of age.....						
Proportion of deaths under five years of age.....						
Number of births during the year, excluding stillbirths.....						
	{ Legitimate. Illegitimate. Total.....					
Number of deaths under one year of age.....						
Rate per 1000 of deaths under one year to number of births.....						
Number of deaths under one month.....						
Number of deaths of those born within the year.....						
Rate per 1000 of deaths of those born within the year to number of births.....						
Estimated population over sixty years of age.....						
Number of deaths over sixty years of age.....						
Rate per 1000 of deaths over sixty years to population over sixty years.....						
Stillborn, number of....	{ Legitimate. Illegitimate. Total.....					
Number of tenement-houses.....						
Estimated population of tenement-houses.....						
Total number of deaths in tenement-houses exclusive of stillborn....						
Ratio per 1000 of deaths to population in tenement-houses.....						
Number of births in tenement-houses exclusive of stillborn....						
	{ Legitimate. Illegitimate. Total.....					
Number of stillbirths in tenement-houses.....						
	{ Legitimate. Illegitimate. Total.....					
Number of deaths under one month in tenement-houses.....						
Number of deaths under one year, exclusive of stillborn, in tenement-houses.....						
Ratio per 1000 of deaths under one year to total births in tenement-houses.....						
Number of deaths under five years in tenement-houses.....						
Death-rate under five years in tenement-houses.....						
Proportion of deaths under five years to total number of deaths in tenement-houses.....						
Number of illegitimate births per 1000 of total births.....						
Number of cases of specific diseases reported during the year.....						
Number of deaths from specific diseases reported during the year.....						
Number of deaths from specific diseases per 1000 of population.....						
Number of deaths from specific diseases per 1000 of total deaths.....						
Number of deaths from diarrhoeal diseases per 1000 of population.....						
Number of deaths from diarrhoeal diseases per 1000 of total deaths.....						
Number of deaths from accidents and injuries per 1000 of population.....						
Number of deaths from accidents and injuries per 1000 of total deaths.....						

This table is to be made up from Compilation Sheets 1 and 2. In cities of which five per cent. and upwards of the population are Colored, Irish, or German, a separate table of this kind should be made for each of these classes, as well as for the total.

EXPLANATION OF DIAGRAMS.

WASHINGTON, D. C., November 1, 1887.

Dr. JOHN S. BILLINGS,

Washington, D. C. :

MY DEAR SIR: Herewith I hand you plan and description of a card, arranged for use in compiling statistics of mortality for the city of New York. This description is intended to illustrate the methods which I employ for making transcripts of the certificates of death, which transcripts are to be used for compiling statistics with the machine which I have devised for this purpose.

It may be noted that if such transcripts on punched cards are made, the original certificates may be filed away or suitably bound, thus forming the records of the office, a perfect alphabetical index to which can readily be prepared from these cards, upon which the names of the decedents and the numbers of the corresponding certificates have been written.

Yours very truly,

H. HOLLERITH.

The accompanying diagram represents a card intended for use in compiling the mortality statistics of the city of New York. The certificates filed with the board of health give for each decedent the following data: Age, sex, color, civil condition, occupation, how long resident in the city, birthplace, birthplace of father, birthplace of mother, place of death, ward; if in a dwelling, by how many families, living separately, occupied, floor, time of death, chief and determining cause of death, consecutive and contributing cause, and duration of the disease.

A separate card is used for each decedent, and upon this the number of the certificate and the name of the decedent is written, the former for the purpose of identifying the card, and the latter for use in arranging an alphabetical index, for which purpose the cards are very convenient. The various items relating to the given decedent are recorded upon the card by punching, with an ordinary conductors' punch, one or more holes for each item. The detail with which such items are recorded can be varied greatly, but it is believed that the following plan is about as elaborate as under present circumstances would be desirable.

Age. On the card at A and B are two rows of spaces numbered from 0 to 10, and from 0 to 9 respectively. These are used for recording the years of age, two spaces being punched for each age. Thus fifty years would be recorded by punching 5 at A and 0 at B, while five years would be recorded by punching 0 at A and 5 at B, forty-two years by 4 at A and 2 at B, twenty-four by 2 at A and 4 at B. It will be seen that each single year of age from 1 to 110 can thus be recorded. If the decedent was under one year of age, it is recorded by punching at C according to months of age; thus 0 would represent under one month, 1 from one to three months, 3 from three to six months, and 6 over six months and under one year.

Sex, race, and civil condition. The sex would be recorded by punching at D, either M or F, according as the decedent was a male or a female. Color would be recorded at E by punching W for white, C for colored, and Ch for Chinese. At F would be punched S, M, W, or U, according as the civil condition was reported as single, married, widowed, or unknown.

				A B C D							
X W	Y	6M	3M	No	Name	0	0	0	M	E	
	M	3W	2W			1	1	1	F		
	W	6	5			2	2	3	W		
	4	3	2			3	3	6	C		
U	1	-1	CB			4	4	S	Ch	F	
	17	16				5	5	M	-W		
	15	14				6	6	W	W		
	13	12				7	7	U	M		
	11	10				8	8	NO	y	G	
	9	8				6	6	DS	Lb		
	7	6				10	Cl	Tr	Ta		
	5	4				A	a	Q	q		
	3	2				B	b	R	r	I	
	1	Ac				C	c	S	s		
	Ab	SC				D	d	1	2		
	BJ	AP				E	e	3	4		
	FG	Ur				F	f	5	6	K	
	Dg	Re				G	g	7	8		
	CI	Nv				H	h	6	10		
	Dv	Cs				I	i	11	12		
	DI	Pa				K	k	13	14	N	
	Ve	Zo				L	l	15	16		
	Ma	Da				M	m	17	18		
	Sp	Un				N	n	19	20		
R	12	11	10			O	o	21	22		
	9	8	7			P	p	23	24		
	6	5	4						A		
	3	2	1						B		
Q	5+	4	3							M	
	2	1	B						C		
	1	H	8+						D		
	3	2	1						E		
P										O	

Occupation. The next item to be recorded is the occupation. This can be recorded in many different ways according to the classification that may be followed. The following arrangement, it is believed, will serve to illustrate the general principles upon which such a record is based.

A large proportion of all the decedents will have no occupation reported (all children and most females) ; these are recorded by punching the spaces marked NO, at G. Of the remainder, a very large proportion will fall into one of some few general classes. Thus, referring to the reports of the tenth census, we find that in the city of New York 513,377 were reported as engaged in all occupations. Of this number 56,255 were domestic servants, 35,424 were laborers, 45,312 were clerks, salesmen, and accountants, 32,075 were traders and dealers, and 43,546 were reported as tailors, dressmakers, and milliners. In other words, these five occupations embraced 212,612 persons, or 41.42 per cent. of the total occupations reported. While this proportion might not hold good in cases of the occupations of the decedents, still the relations would be somewhat as indicated. On account of the large proportion engaged in these occupations, separate spaces are used for recording the same as shown at H, marked DS, Lb, Cl, Tr, and Ta, signifying respectively domestic servant, laborer, clerk, trader, and tailor. For recording the remaining occupations combinations of two letters are used, each combination representing a distinct occupation. Thus, at I are a series of spaces marked A, B, C, etc., and a, b, c, etc., each combination of a large and a small letter being used to designate an occupation, as for example, Ph lawyer, Pp teacher, Pi physician, etc. If the occupations are arranged into groups, then each group could be designated by one or more of what may be called index letters: thus the group of professional occupations might be designated by the index letter P, and each specific occupation in this group could be designated by combinations of the letter P with the small letters as above shown. This would greatly facilitate the sorting of the cards and tallying by groups of occupations. If the combination of the same letters as Aa, Bb, Cc, etc., are used to designate the most important occupations, numerically, of each group, such occupations could be directly designated on the card as shown at K. The occupations specified include, according to the census reports, 128,657 persons, or 25.06 per cent. of the total occupations reported. For the remaining occupations (33.52 per cent. of total reported) reference would first be had to an alphabetical index, which would show the designation of the given occupation according to which the record would be punched.

Time residence in city. At L the length of time resident in the city is recorded by punching a space marked either w, w, m, or y, according as residence was for under one week, over one week, over one month, or over one year.

Nativity. The nationality or nativity is recorded by punching at M, in the first row, according to the birthplace of the decedent, in the second row according to the birthplace of the father, and in the third row according to the birthplace of the mother.

Place of death. The place of death is recorded by punching at N the ward in which the death occurred, and at O one of the spaces marked A, B, C, D, E, or F, according to some suitable subdivision of the given ward. These subdivisions are preferably arranged with reference to the enumeration districts of the census, so that the population of each subdivision may be known. Such subdivision of the wards seems especially desirable in the case of some of the exceedingly large wards of the city of New York. Again, such subdivisions may be arranged with reference to the social or the sanitary condition of the given districts. The proposed arrangement would, if desirable, allow of as many as six subdivisions of each of the twenty-four wards of the city.

If the death occurred in a dwelling of 1, 2, 3, to 7 or 8 and over, families, or in a hotel or public institution, it is recorded by punching at P one of the spaces marked 1, 2, 3, 8, H, or I. The floor on which the death occurred is recorded at Q by punching one of the spaces according as the death occurred in the basement, or on the first, second, third, fourth, or fifth and higher floor.

Date of death. The date of the death is recorded at R, according as it occurred in the 1st, 2d, 3d, 4th, etc., month. If desired, the year could also be recorded by punching spaces suitably numbered. The same object, however, could probably be more readily accomplished by the use of different colored cards for each year, or in other manner.

Cause of death. The cause of death is the next item to record. On the card at S are specified nineteen different causes, which would be selected on account of their numerical importance. Such causes would probably embrace from 65 to 70 per cent. of all the deaths reported. To record these causes, it is simply necessary to punch the spaces indicated. The remaining causes are recorded by punching at T according to the group to which it belongs. Thus in the present scheme Un signifies unknown, Sp specific, Da diarrhœal, Ma malarial, Zo zoögenous, Ve venereal, Pa parasitic, Di dietic, Cs constitutional, Dv developmental, Nv nervous, Ci circulatory, Re respiratory, Dg digestive, Ur urinary and male organs of generation, FG female organs of generation, AP affections connected with pregnancy, BJ diseases of the bones and joints, SC diseases of the skin and cellular tissues, Ab diseases of the absorbent system, and Ac accidents and injuries. Under each one of these groups seventeen specific causes or sub-groups may be recognized by punching at U according to some previously arranged scheme. Thus, for example, under specific disease 1 might be used to designate small-pox, 2 whooping-cough, 3 erysipelas, 4 septicæmia, &c. Again, these same spaces may be used to record details relating to any one of the causes specified at S. Thus, after punching the space marked cancer, we can record whether of the breast, bladder, stomach, liver, or uterus, etc., by punching space 1, 2, 3, 4, or 5, etc., respectively. Any further data relating to the cause of death could be recorded by writing in the blank space at V. Thus, if desired, the contributing cause could be recorded by writing, or this could also be recorded by punching from spaces arranged

for this purpose, in similar manner as for the chief and determining cause.

The space at W marked CB is punched whenever, in case of a female, the death occurred within one month after childbirth irrespective of the given cause of death.

Duration of Disease. The duration of the disease is recorded at X, -1 for less than one day, 1, 2, 3, 4, 5, or 6, according to the number of days, w, 2w, 3w, according to the number of weeks, or m, 3m, 6m, or y, according whether over one month and under three, over three months and under six, over six months and under one year, or over one year.

Thus it will be seen that with an ordinary conductors' punch all the principal facts relating to any death can be readily recorded on a card $8\frac{1}{2}$ inches long and $3\frac{1}{4}$ inches wide. The detail with which this is done can readily be varied as desired. If the cards are to be sorted and tallied in the machine devised for this purpose, it will probably be advisable to record the data in as much detail as possible, as the various data can be grouped and sorted or tallied by the machine in groups, while the detail record remains for future use. For example, in the matter of ages, if each single age is recorded, the machine can count or sort the cards according to any desired grouping of these ages, likewise with regard to occupations or causes. Again, the arrangement of groups can be varied according to the combination to be tallied. Thus, for the city it may be desirable to tally the causes of death with considerable detail in combination with age, sex, race, and nativity; but when giving similar combinations for each ward it would probably be desirable to give the same combinations by fewer groups of causes and ages.

The consecutive arrangement of the spaces on the card correspond generally with the arrangement of the corresponding inquiries on the certificate. The arrangement on one side of the card is reversed from that on the other side so that the card may also be held in the left hand while manipulating the punch with the right hand.

This description, it is believed, will serve to show how readily a scheme may be arranged to record any data as desired on a card of the given size.

United States	○	1	11
Foreign	○	2	12
Ire. Balti.	○	3	13
Eng. & W. Md.	○	4	14
Scot. D.C.	○	5	15
Germ'y Va.	○	6	16
Boh. Pa.	○	7	17
Pol. N.Y.	○	8	18
B. A. D. & N. J.	○	9	19
France N. Eng.	○	10	20
Italy S. At.	○	M	E
O. Eur. Southn.	○	D	P
O. For. Westn.	○	D	T
Apoplexy	○	N	C
Bright's disease	○	R	D
Bronchitis	○	U	G
Cancer	○	L	I
Cholera Infantum	○	C	W
Consumption	○	O	N
Convulsions	○	V	9
Croup	○	I	7
Diarrhoea	○	2	8
Diphtheria	○	3	6
Heart disease	○	4	10
Inanition	○	5	11
Marasmus	○	a	h
Meningitis	○	b	i
Old Age	○	c	k
Paralysis	○	d	l
Pneumonia	○	e	m
Premature Birth	○	f	n
Typhoid fever	○	g	o
Shoemakers	○	9	10
Seamen	○	7	8
Merchants	○	5	6
Laundry Men & Wo.	○	3	4
Laborer	○	2	9
Clerk & Book-keeper	○	1	8
Carpenter	○	X	7
Teamster	R	r	6
Tailor	Q	q	5
Servant	P	p	4
Saloon & Rest. K'p'r	O	o	3
Salesman	N	n	2
Printer	M	m	1
Physician	L	l	0
Painter	K	k	9
Operative	I	i	8
Mechanic	H	h	7
Mason	G	g	6
Manufacturer	F	f	5
Machinist	E	e	4
Fisherman	D	d	3
Eng'r & Fireman	C	c	2
Clergyman	B	b	1
Blacksmith	A	a	0
	W	C	I
	F	W	U
	M	S	M
	10	11	12
	7	8	9
	4	5	6
	1	2	3

DIAGRAM OF BALTIMORE.

Y	S.N.	10
W	6	6
D	8	8
U	7	7
M	6	6
S	5	5
W	4	4
F	3	3
M	2	2
C	1	1
M	0	0
12	11	10
9	8	7
6	5	4
3	2	1
30	29	28
27	26	25
24	23	22
21	20	19
18	17	16
15	14	13
12	11	10
9	8	7
6	5	4
3	2	1
Wr	Un.	Su.
So.	Sa.	Pa.
Oc.	Mr.	Mn.
Md.	Mo.	Ht.
Hs.	Gl.	Es.
Cu.	Cy.	Cn.
Bu.	Br.	At.

Name _____

Vol. _____ Page _____ Line _____

No Occ.	<input type="radio"/>	79	93
Agriculture	<input checked="" type="radio"/>	80	94
Laborer	<input type="radio"/>	81	95
Labr. Sk.	<input type="radio"/>	82	96
Mech. Ab.	<input type="radio"/>	83	97
Mech. Sh.	<input type="radio"/>	84	98
M. F. A.	<input type="radio"/>	85	99
Emp. on W.	<input type="radio"/>	86	00
Clergy	<input type="radio"/>	87	01
Lawyer	<input type="radio"/>	88	02
Physician	<input type="radio"/>	89	03
Teacher	<input type="radio"/>	90	04
Oth. Prof.	<input type="radio"/>	91	05
Oth. Occ.	<input type="radio"/>	92	06
U. S.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ireland	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Germany	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other For.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accident	<input type="radio"/>	Er.	<input type="radio"/>
Brain & Ner.	<input type="radio"/>	Me.	<input type="radio"/>
Cancer	<input type="radio"/>	Rh.	<input type="radio"/>
Consumption	<input type="radio"/>	S.P.	<input type="radio"/>
Croup & Dip.	<input type="radio"/>	•	<input type="radio"/>
Diarrhœa	<input type="radio"/>	✱	<input type="radio"/>
Heart & Cir.	<input type="radio"/>	N.C.	<input type="radio"/>
Lung	<input type="radio"/>	Un.	<input type="radio"/>
Puerperal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remitt. Fever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scarlet Fever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Typhoid Fev.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Urinary Dis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whoop. C'gh.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DIAGRAM OF NEW JERSEY.

