

REVIEW OF THE TABLES AND THEIR RESULTS.

"If we are to devote our attention, before all things, to what can be measured and weighed, the living man is the first object which demands our investigation. The 'average man' of Europe having been determined by Quetelet, his system is now applied to races."—CARL VOGT.

In consulting the tables of Vol. II, it will be found of importance to bear in mind the exact meaning to be attached to certain terms which appear in them. Some of these terms are used in a more restricted sense than their ordinary employment would seem to authorize, but the explanation is to be found in their original use by the Provost-Marshal-General's Bureau in the forms and reports required during the war.

When the law¹ was enacted requiring an enrollment to be made of the entire male population, within certain limits of age, with a view to compulsory military service, it became quite common for men who had been enrolled, but who believed that they were disqualified by physical infirmity, to present themselves voluntarily to the medical officer for examination. If their claim for exemption proved to be well founded, their names were erased from the rolls; but if otherwise, they continued, like others, to be liable to the draft. The effort to relieve the rolls of all unavailable material was purposely encouraged by the authorities of each district, inasmuch as the quota of men to be provided under any call bore relation to the total number enrolled. By this prudent expurgation, the quota was diminished, and the supply of men from which it was to be filled became correspondingly more available. The details of the examinations, made from the motives described, form part of the tables, and the men, whether found qualified for a soldier's life or not, are described as "*Enrolled Men.*"

After the enrollment was completed, the quota of men due from each district under each successive call was equitably supplied by lot, and the conscripts, whether retained in the service or discharged, after examination by the surgeon, are spoken of as "*Drafted Men.*"

The law provided that any citizen enrolled as liable to military duty might present a substitute provisionally; and during the period of time for which the substitute (if found qualified) was accepted, his principal was exempt from draft. In like manner, a man *who had been drafted* was able to obtain exemption from service if he succeeded in furnishing a satisfactory substitute before reporting at the "camp of rendezvous." In either case, if the substitute became liable to draft at any time thereafter, the liability of the principal immediately recurred, and his name was again placed upon the rolls. Men offered in the manner described, whether accepted or rejected by the examining surgeon, form the "*Substitutes*" of the tables.

During the operation of the enrollment-law, volunteering by no means ceased.

¹Act for enrolling and calling out the national forces, approved March 3, 1863.

Patriotic feelings continued to influence many to enlist, while others preferred the credit of volunteering to the possibility of compulsory service under the draft. The most effective inducements, however, were the large bounties offered by the State and General Governments, which amounted to fully six hundred millions of dollars during the war. In the tables, volunteers, whether rejected or accepted, are designated as "*Recruits.*"

Drafted men, if found unfit for military service, were spoken of in the reports and tables as "*exempted,*" and if otherwise as "*not exempted.*" The same terms are also applied to enrolled men. Recruits and substitutes whose enlistment was voluntary are described as "*accepted*" or "*rejected.*" The phrase "*found fit for service*" applies to either or to all of the four classes.

The designation "*Colored Men,*" intended to describe exclusively the negro and his hybrids, should not, perhaps, be admitted in scientific terminology on account of its obvious lack of precision, and its equal applicability to the aboriginal inhabitants, as well as to more than one foreign race found among us. Usage, however, in the United States has so confined the term to the single meaning, and the reports upon which these tables are based so constantly employ it, that it has been thought best to retain it. Foreigners consulting these tables may need this explanation.

NOMENCLATURE OF DISEASES.—The nomenclature of diseases adopted in this work is, with some necessary modifications, that which was published by authority of the Royal College of Physicians of London, in 1869,¹ and which was to a considerable extent based upon the classification of Dr. Farr. The system of the latter had many excellent characteristics, and, indeed, was adopted almost in its entirety as the form for reports from hospitals during the war; but the more recent work of the English college is in many respects its superior. It admits of the arrangement of disease in more clearly-defined subdivisions, and in its classification of *general diseases* is more in accordance with advanced pathology. It is quite possible to point out some faults in this nosology, but taken as a whole it is the best and most practical yet devised. When, too, it is considered that the English terms are employed, by direction of the registrar-general of England, in the very thorough system of registration which has been in force in that kingdom for over thirty-five years, and that it is also the official standard for use in the British army and navy, it becomes obvious that the opportunity of convenient comparison renders its employment highly desirable in our army-reports and the medical statistics of civil life.²

In explanation of some peculiarities in the classification of disease in the pathological tables of this work, it is to be said that the early returns from examining surgeons were not characterized by the uniformity and precision which afterward prevailed. In many instances, the causes of exemption were described in such indefinite terms as to render the classification a matter of no slight difficulty, and yet the omission of such returns from the tables would necessarily have vitiated the result. The inaccuracies referred to are most observable in the description of diseases of the viscera. Such

¹ *The nomenclature of diseases, drawn up by a joint committee appointed by the ROYAL COLLEGE OF PHYSICIANS OF LONDON, (subject to decennial revision,)* 8vo, London, 1869.

² A recent order has directed that this nomenclature shall be exclusively employed in the reports of the United States marine-hospitals.

expressions as "disease of the heart," "disease of the lungs," "disease of the liver," are specimens of the mode of reporting causes of exemption in many instances. A careful examination of this class of returns, and some necessary correspondence relating to them, made it evident that they were capable of being assigned to the two groups of acute and chronic diseases of the organ. There still remained, however, a small number of cases in which, although organic disease was in some manner indicated, the particular organ affected had not been specified. Under the heading "UNCLASSIFIED" these form a group described as "Organic disease of internal organs." Their number is only 183; but a French critic, unaware of the explanation just given, has especially commented upon this portion of our nomenclature in an article marked by much ability but containing some errors and misapprehensions.¹

¹ *Le recrutement dans l'armée fédérale des États-Unis, pendant la guerre de sécession, par M. ELY, médecin-major de 1re classe. Recueil de Mém. de médecine, de chirurgie et de pharmacie militaires, 3me série, tome xxii, p. 1, Paris, 1869.* This article consists of a review of the "Final Report of the Provost-Marshal-General," printed in 1866, and which, it will be remembered, contained the first part of the statistical tables of which the present work forms the completion. M. Ely comments with emphasis upon the harshness and severity that must have resulted from the enforcement of the rules as to exemption for physical disability, "under which," he says, "the American surgeons were compelled to leave none outside the ranks of the Army but men afflicted with incurable disease. Those whose maladies were susceptible of cure might seek that cure in the field. Men blind in the left eye, or in the first stage of phthisis; those suffering from osseous caries which happened to be stationary; with uncomplicated anal fistula, or external hæmorrhoids, and the like, were considered to be fit for service, as well as all those who were suffering from diabetes, albuminuria, &c., whose diseases had not as yet made them absolute invalids. The injunctions are formal, and the selected phrases are underlined and reiterated, such as *manifest, grave, evident, or established incapacity.*" The writer also expresses his surprise that myopia should not exempt, and that liability to hernia from relaxation of the inguinal ring should not be regarded as disqualifying. He proceeds to point out the different spirit of the French and English regulations, under which it is the object of the surgeon to exclude from the army men even *threatened* with disease. Divested of their rhetorical exaggeration, there is still some justice in these criticisms. The chief medical officer of the Bureau strongly advised the making of certain alterations in the list of disqualifications, and among them the very obvious ones alluded to by M. Ely. The pressure of public business, and other reasons not now needful to be detailed, retarded the design until the collapse of the rebellion made it no longer necessary. Some of M. Ely's objections proceed from incorrect translation, as where he supposes "well-established recent insanity, with a liability to recurrence," to mean a case where the service has recourse upon the man in the future. The emphatic terms, also, whose frequent use he criticises, by no means apply always to the disease but more often to the proof of its existence: thus, in the case just alluded to, the expression "*well-established*" refers to the evidence that insanity did recently exist, and not, as M. Ely supposes, to the degree of development of the disorder.

M. Ely more than once expresses his astonishment that the use of anæsthetics should be allowed in cases of supposed simulation of disease. Yet the French code expressly permits their employment upon the soldier in hospital who may be suspected of feigning disability for the purpose of obtaining a discharge.[¹] The drafted man was, with us, held to be actually in the service from the moment the lot fell to his name; if a disqualification were found to exist, it entitled him to his discharge, and there seems to be no reason why a soldier, owing his whole period of service to the Government, should not be subjected to the same scrutiny as he from whom a remainder only is due. M. Ely errs in stating that anæsthesia was commonly resorted to in the examinations; its aid was allowed only in cases of professed rheumatic contraction of joints when unattended with perceptible alteration of form or structure. As a matter of fact, however, the length of time required in the process, especially for the application of æther, rendered the permission nugatory when from forty to sixty men had to be examined each day.

M. Ely asserts that the exigence with which men even partially diseased were compelled to take their places in the ranks deprives the statistics of all value as regards the number of those exempted in relation to the population. The inference which he wishes to make is, doubtless, that the figures representing the military aptitude of the nation, if drawn therefrom, would be unreliable. To this it may be replied, generally, that the facts do not warrant his conclusions. It is true that the rulings of the medical instructions were curtly worded, but the examining surgeons were men, selected for their experience and ability, who knew well that the object of the Government was to obtain men able to endure the hardships of a prolonged campaign, and that the *degree* of incapacity attendant upon any disorder was left to their judgment. They also knew that each recruit would be rigorously re-examined at the camp of rendezvous by the surgeon in charge, and that if considered unfit for service he would be returned to his district with a reprimand, implied or expressed, to the medical officer who had approved him. That certain defects were not to be looked upon as causes for exemption was, as already stated, a matter of regret; but it is also true that these were mostly defects of function, congenital or acquired, and not disabilities arising from disease.

[¹] *Instruction pour servir de guide aux officiers de santé, &c., p. 24, folio, Paris, 1862.*

The following is the classification finally adopted as most suitable for the enumeration of the disqualifications for military service :

GENERAL DISEASES.

- A.—Erysipelas.
Fever.
- B.—Cancer.
Chronic rheumatism.
General dropsy.
Scurvy.
Syphilis.
Non-malignant tumors.
Scrofula.
Phthisis pulmonalis.

DISEASES OF THE NERVOUS SYSTEM.

DISEASES OF THE BRAIN AND ITS MEMBRANES

- Acute disease of brain.
- Chronic disease of brain.
- Sun-stroke.

DISEASES OF THE NERVES.

- Paralysis.

FUNCTIONAL DISEASES OF THE NERVOUS SYSTEM.

- Chorea.
- Epilepsy.
- Neuralgia.
- Stammering.

DISORDERS OF THE INTELLECT

- Chronic alcoholism.
- Imbecility.
- Insanity.
- Solitary vice.

DISEASES AND INJURIES OF THE EYE AND EYELIDS.

DISEASES AND INJURIES OF THE EYE.

- Cataract of right eye.
- Loss of crystalline lens of right eye.

Loss of sight of right eye.
Loss of sight of left eye.
Partial loss of sight of both eyes.
Diseases of the eyes.

DISEASES OF THE EYELIDS.

Diseases of the eyelids.

DISEASES OF THE EAR.

Chronic purulent otorrhœa.
Deaf-dumbness.
Deafness.

DISEASES AND INJURIES OF THE NOSE.

Deformity of nose.
Loss of nose.
Ozaena.

DISEASES OF THE CIRCULATORY SYSTEM.

DISEASES OF THE HEART AND ITS MEMBRANES.

Acute disease of heart.
Chronic disease of heart.

DISEASES OF THE BLOOD-VESSELS.

Diseases of the Arteries.

Aneurism.

Diseases of the Veins.

Varicose veins.

DISEASES OF DUCTLESS GLANDS.

DISEASES OF THE THYROID GLAND.

Goitre.

DISEASES OF THE RESPIRATORY SYSTEM.

DISEASES OF THE LARYNX.

Fistula of larynx.

FUNCTIONAL AFFECTIONS OF THE LARYNX.

Loss of voice.

NOMENCLATURE OF DISEASES.

DISEASES OF THE TRACHEA AND BRONCHI.

Bronchitis.
Fistula of trachea.

DISEASES OF THE LUNG.

Acute disease of lung.
Chronic disease of lung.

DISEASES OF THE PLEURA.

Chronic pleurisy.

DISEASES OF THE DIGESTIVE SYSTEM.

DISEASES AND INJURIES OF THE JAW.

Ankylosis of jaw.
Disease or deformity of jaw.

DISEASES, MALFORMATIONS, AND INJURIES OF THE TEETH, GUMS, AND ALVEOLI.

Loss of teeth.

DISEASES AND INJURIES OF THE TONGUE.

Loss of tongue.

DISEASES OF THE FAUCES AND PALATE.

Cleft palate.

DISEASES OF THE SALIVARY GLANDS.

Salivary fistula.

DISEASES OF THE STOMACH.

Acute disease of stomach.
Chronic disease of stomach.

DISEASES OF THE INTESTINES.

Chronic diarrhœa.
Hernia.
Hernia, umbilical.
Hernia, ventral.
Hernia, right inguinal.
Hernia, left inguinal.

Hernia, double inguinal.
 Hernia, right femoral.
 Hernia, left femoral.
 Hernia, double femoral.

DISEASES OF THE RECTUM AND ANUS.

Fistula in ano.
 Hæmorrhoids.
 Prolapsus ani.
 Stricture of rectum.

DISEASES OF THE LIVER.

Acute disease of liver.
 Chronic disease of liver.

DISEASES OF THE SPLEEN.

Acute disease of spleen.
 Chronic disease of spleen.

DISEASES OF THE URINARY SYSTEM.

DISEASES OF THE KIDNEY.

Acute disease of kidney.
 Chronic disease of kidney.

DISEASES OF THE BLADDER.

Acute disease of bladder.
 Chronic disease of bladder.
 Calculus.
 Incontinence of urine.

DISEASES OF THE URETHRA.

Stricture of urethra.
 Urinary fistula.

DISEASES OF THE GENERATIVE SYSTEM

DISEASES AND INJURIES OF ORGANS OF GENERATION.

Diseases of Penis.

Epispadia.
 Hypospasia
 Gonorrhœa.
 Loss of penis.

Diseases of Tunica Vaginalis.

Hydrocele.

Sarcocele.

Varicocele.

Diseases of Testicle.

Acute disease of testicle.

Chronic disease of testicle.

Retention of testicle.

DISEASES OF ORGANS OF LOCOMOTION.

DISEASES OF BONES.

Chronic disease of bones.

DISEASES AND INJURIES OF THE JOINTS.

Ankylosis of joints.

Chronic diseases of joints.

Dislocation of joints.

DISEASES OF THE SPINE.

Curvature of spine.

DISEASES OF THE MUSCULAR SYSTEM.

Diseases of Muscle.

Atrophy of limb.

Diseases of Tendon.

Muscular contractions.

Club-foot.

Wry-neck.

DISEASES OF THE CELLULAR TISSUE.

Abscess.

Obesity.

DISEASES OF THE CUTANEOUS SYSTEM.

Cutaneous contractions.

Disease of skin.

Ulcers.

CONDITIONS NOT NECESSARILY ASSOCIATED WITH GENERAL OR
LOCAL DISEASE.

Deficient size of chest.
Deformity of chest.
Permanent physical debility.
Relaxed inguinal rings.
Over age.
Under age.
Under size.

LOCAL INJURIES.

LOCALITY OF INJURY NOT SPECIFIED.

Fractures.
Loss of limb.
Wounds.

INJURIES AND MALFORMATIONS OF UPPER EXTREMITIES.

Defects or deformities of hand.
Loss of thumb.

INJURIES AND MALFORMATIONS OF LOWER EXTREMITIES.

Defects or deformities of foot.
Loss of great toe.

UNCLASSIFIED.

Organic disease of internal organs.

There are some minor peculiarities of this classification, a recollection of which will be found of assistance in obtaining a clear understanding of the tables.

Thus, men who claimed to be suffering from *rheumatism* were not exempted unless the affected limb exhibited evidence of change of structure, such as wasting of the limb, or puffiness of the joint.

By *syphilis* is to be understood the secondary form of that disease, with impaired constitution; primary syphilitic ulcers did not exempt.

The term *chronic alcoholism* applies to gross habitual intemperance; delirium tremens did not exempt. In fact, drunkenness is not mentioned as a disqualification in the official instructions; but an *impaired constitution*, the result of the constant abuse of stimulants, or of indulgence in the habit of masturbation, was an authorized ground for exemption.

By *loss of teeth* is to be understood the total loss of the incisors, canines, and first molars at least of one jaw.

The heading *chronic diarrhœa* includes some cases of chronic dysentery; the two diseases having been generally combined in the returns

It will be observed that a certain number of cases of *hernia* are recorded without specification of the variety. These form a part of the early returns before alluded to, and are necessarily included, although in an unsatisfactory form of description, in order that the ratio of the total number of cases of hernia to the whole number of men examined might remain unaffected.

External hæmorrhoids were not admitted to be a cause for exemption, but internal piles, if ulcerated and of long standing, disqualified. By the term *hæmorrhoids*, therefore, the latter are to be understood.

Under the first draft, the medical instructions admitted *varicocele* and *incontinence of urine* as disqualifications for service; under succeeding drafts, these disorders were not allowed to exempt. Their relation, therefore, to the whole number of men examined must be considered as below the correct ratio.

By *stricture of the urethra* must be understood severe or inveterate cases. Recent or spasmodic stricture did not exempt.

The cases of *epispadia* or *hypospadia* are altogether those in which the opening of the urethra was at the middle of the penis, or still nearer its root.

No definite measurements were established under the instructions of the Bureau as the minima of girth of chest or of stature, but these points were left to the judgment of the medical officer. It may be stated that as a general rule men of less circumference of chest than thirty inches, or of less height than sixty-two inches, were rejected. The cases tabulated as *under size* comprise those of deficient stature.

The age of drafted men, which defined their liability to service, was always inquired into at the time of their enrollment. The columns headed *over age* and *under age* are made up entirely from the cases of recruits (*volunteers*) and substitutes. These men, desirous of procuring admission into the service, in order to obtain bounty or substitute-money, constantly endeavored to conceal the fact of their being either below or beyond the limits of competent age.

By *loss of thumb*, in the division of "Injuries and malformations of the upper extremities," is to be understood the loss of one phalanx, or of the entire thumb of the *right hand*. The loss of any two fingers of either hand, or of the first and second phalanges of the fingers of the right hand, the permanent extension or permanent contraction of two fingers of the right hand, or adhesion of all the fingers of same, are those only which are included in the group of *defects or deformities of hand*.

In the next division, comprising "Injuries and malformations of lower extremities," the *loss of great toe* applies to that of either foot. By *defects or deformities of foot* is meant club-foot or such other permanent defects or deformities of the feet as would necessarily prevent marching.

Some of the headings in the tables of disease may seem needlessly comprehensive when compared with the cases following them, but it was thought best to adhere to the wording of the classification selected as a standard.

NATIVITIES.—The nativities represented in this work are twenty-four in number; three of these, however, are the distinct races existing in the United States, namely,