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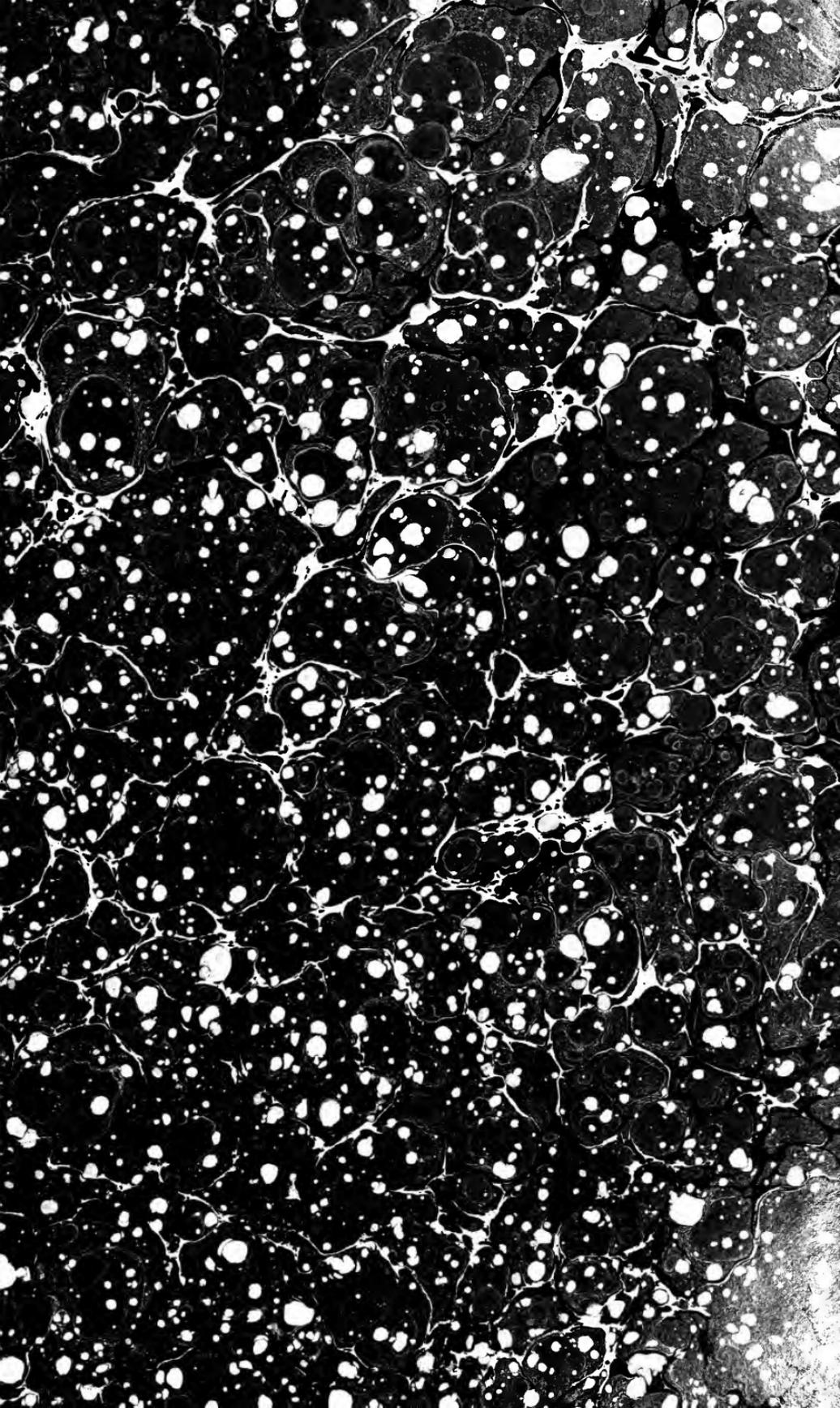


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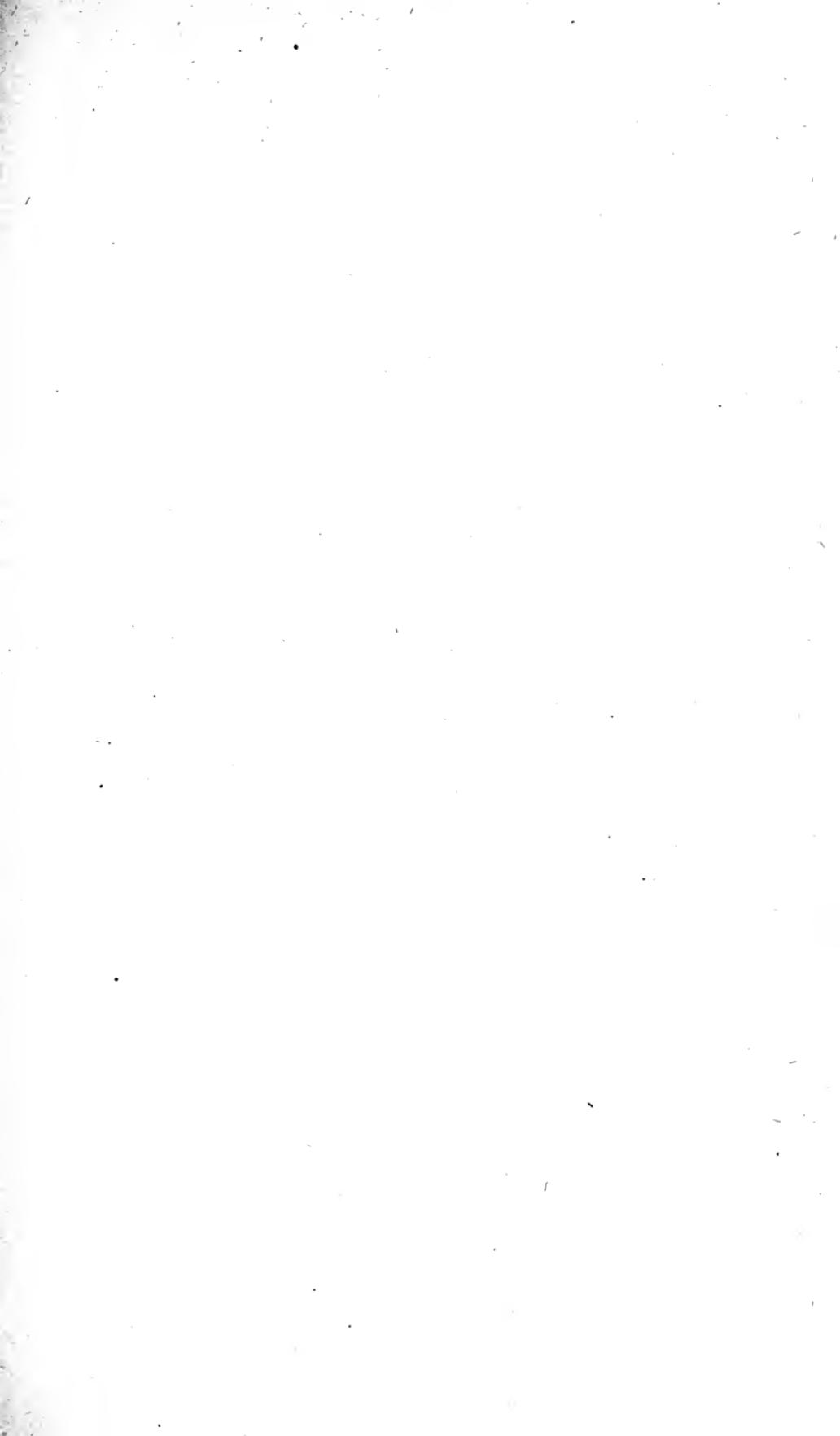
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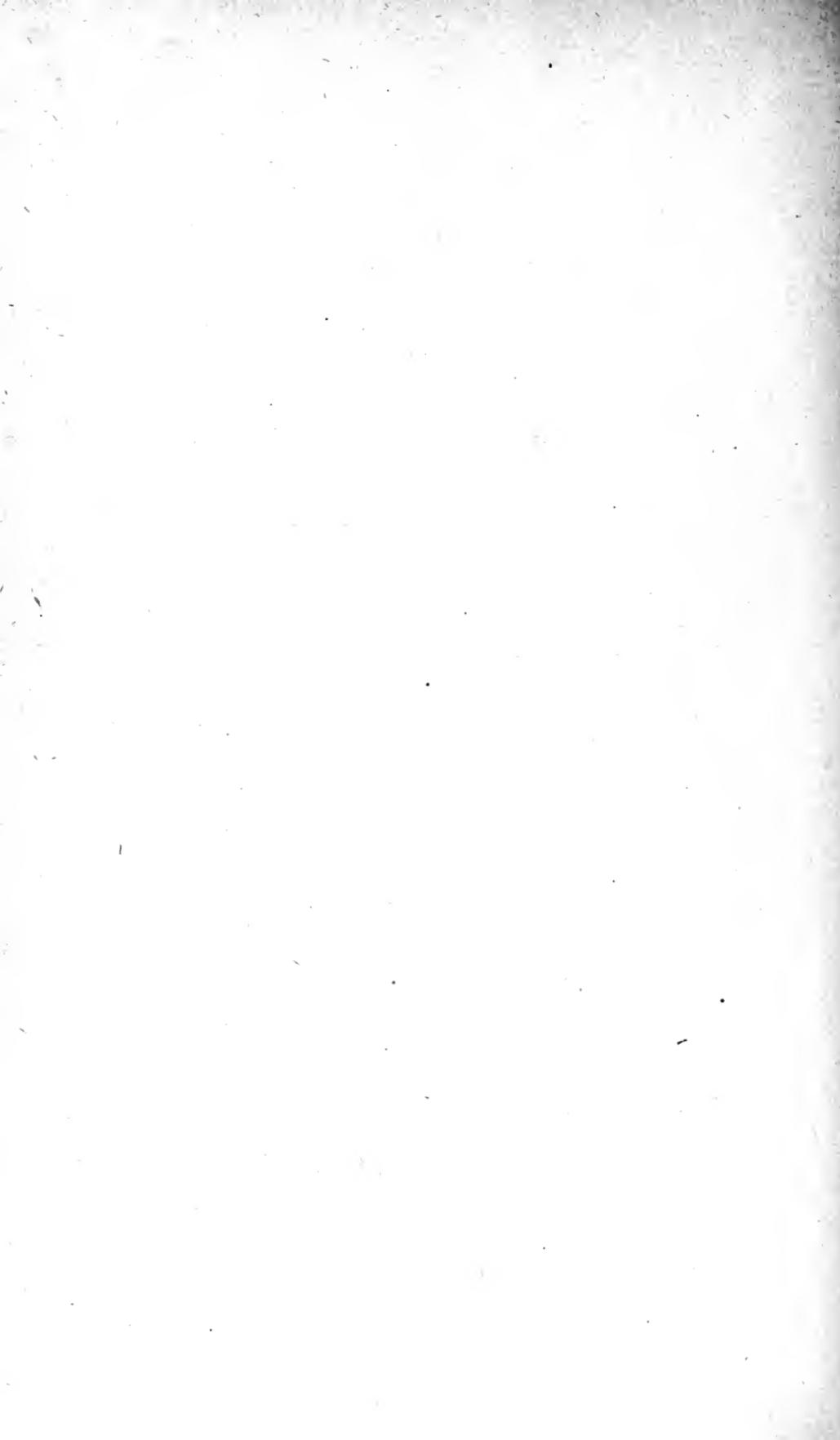
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# THE PERSONNEL

— OF —

# SEA-COAST DEFENSE

— BY —

PETER S. MICHIE,

PROFESSOR U. S. MILITARY ACADEMY.



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THE PERSONNEL OF SEA-COAST DEFENSE,

BY PROFESSOR PETER S. MICHIE,

UNITED STATES MILITARY ACADEMY.

IN the exercise of the Constitutional power "of providing for the common defense," Congress has heretofore authorized by various enactments the gradual construction of a system of land fortifications for the protection of our sea board. This system, devised as early as 1816, though greatly modified in its details during its progressive development, was essentially completed at the close of the Civil War. At that epoch, no rupture of peaceable relations with foreign powers, however threatening, could have endangered the national honor by reason of weakness or defect in the established system of our defenses. But within the last twenty-five years, the progress of science has brought about radical changes in both the attack and defense, so that the system, which once was a strong protection, has now become not only weak, but absolutely more dangerous to the defenders than to the enemy. The following quotations sufficiently establish this statement:

1. "In conclusion: with old casemated works (than which there were none better in the world in their day) designed long before

the introduction of the 800- to 2,000-pounder rifled guns into modern warfare; their walls pierced for guns long since out of date; without iron armor or shields, and but partially armed, even with the old ordnance; with old earthworks, some of them built in the last century; with new ones for modern guns and mortars, but partially built and rapidly being destroyed by the elements by reason of their incompleteness; with gun batteries without guns, and mortar batteries without mortars; with no carriages whatever for barbette guns of large size, except such as require the cannoniers to load from the tops of parapets, from which they can be picked off in detail by the enemy's sharpshooters, we can make but a feeble defense against the powerful fleets now prepared and rapidly increasing, which will sooner or later be brought against us by some of the most powerful maritime nations on the earth, or by others nearer at hand whose offensive naval means exceed our own, and whose powers are not to be despised."\*

2. "Since 1875 not one penny has been appropriated for the *construction* of sea-coast defenses. The annual appropriation of \$100,000 for *preservation* and *repairs*, increased to \$175,000 since 1881, has not even sufficed to preserve our unfinished works, and our defenses are actually in a worse condition to-day than they were ten years ago.

"For the defense of our entire coast we have only the following armament: (1) About 150, 8-inch rifles, which have been converted from the old 10-inch smooth-bores. (2) About 310, 15-inch smooth-bores. (3) A considerable number of smooth-bores of smaller calibres, and some cast-iron Parrott rifles. (4) One modern 12-inch rifled mortar and a number of smooth-bore 10- and 13-inch mortars."†

3. "It is of no advantage to conceal the fact that the ports along our sea-coast—a length of about 4,000 miles, not including Alaska,—invite naval attack; nor that our richest ports, from their greater depth of water and capacity to admit the largest and most formidable armored ships, are of all the most defenseless.

"The property at stake exposed to easy capture and destruction would amount to billions of dollars, and the contributions which could be levied by a hostile fleet upon our sea ports should be reckoned at hundreds of millions.

"It is impossible to understand the supineness which has kept

\* Report of the Chief of Engineers, U. S. Army, for 1880.—p. 16.

† "Our Sea-Coast Defenses," Eugene Griffin, 1st Lieut. Corps of Engineers, U. S. A.

this nation quiet, allowing its floating and shore defenses to become obsolete and effete—without making an effort to keep progress with the age, while other nations, besides constructing powerful navies, have not considered themselves secure without large expenditures for fortifications, including armored forts.

“In the meantime we have acquired great riches and apparently dreamed that prosperity should inspire friendship, and not envy, in less favored peoples—forgetting that riches are a temptation, and that the plunder of one of our sea ports might abundantly reimburse an enemy for the expenses of a war conducted against us.

“Under the most favored conditions a long period would be required to place the defense on a secure basis, and who shall guarantee that this can be effected free from complications with foreign powers? The Gun-Foundry Board has estimated that it would require at least three years to establish proper plant for the construction of modern guns. It would in all probability require two years more to get out and prove the first 16-inch gun.”\*

It is unnecessary to fortify this exhibit of our defenseless condition, or to emphasize the fact that years must elapse, however active the Government may be, before this deplorable condition can be remedied. But the Government ought speedily to decide whether it will adopt the policy of a modern defense, commensurate with the dignity and honor of the nation, or whether it shall openly assume the continuing risk of no defense for the future. In the latter case, common sense would demand that our forts be immediately dismantled, and their garrisons disbanded, in the interests of a wise economy. For though their masonry walls and frowning tiers of guns may deceive the unprofessional eye, every trained soldier knows, that they are but a veneer of apparent solidity, covering a decayed, valueless and obsolete system.

Unfortunately, there can be no middle ground. In the frequent international disputes that will of necessity arise, this nation, having no defense, must yield, temporarily though it be, to the pretensions of any power however insignificant, or be able to maintain her assumed position with dignity and honor, in relying upon a strong defensive barrier, capable of exacting respect on the part of other nations.

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\* Report of the “Board on Fortifications and other Defenses,” created by Act of Congress, March 3, 1885; submitted February 26, 1886.

An efficient land defense of our sea-coast depends on two equally important and co-ordinate factors, viz.: one, *the materiel*, or that relating to the fortifications with their armament and accessories, and the other, *the personnel*, or that pertaining to the troops which garrison the former. The materiel has very properly received the most prominent attention hitherto, but the personnel has been very generally ignored. Now, since the defense cannot be *spirited*, without an adequate and efficient personnel, no matter how perfect the forts and guns may be, it is of the highest importance to investigate its present condition and needed modifications; and such is the main object of this paper.

Excluding the temporary necessity for troops to protect our citizens from Indian depredations, the sole argument for the support of a military peace establishment in this country, can rest only on the necessity of such a force, in the possibility of a foreign war; that is "to provide for the common defense." It has been our settled policy to avoid such wars, when this can be done without impairing the national honor, but this imposes on the Government the duty of being ever prepared for them. A regular army of 25,000 men has been deemed sufficient for this purpose, and its value has hitherto been unquestioned. For as the volunteers and militia of the United States become the real soldiers of the Republic in time of actual war, and as, by reason of their ordinary avocations in time of peace, they cannot acquire the requisite drill, discipline and organization, to make them efficient, it is essential that these elements of military strength and efficiency be conserved by a regular army, which, though small in number, shall be compact and complete in all of its appointments. A regular army fosters the study of the Art of War, keeps pace with its progress, notes improvements in its materiel, and educates officers for all branches of the line and staff. It furnishes from its personnel the first commanders of the organized bodies employed in actual operations against the enemy, and constitutes a strong reserve upon which the Government can rely in case of temporary reverse or disaster.

#### THE UNITED STATES ARTILLERY.

But in our case, the first and most important theatre of operations, and indeed, from the character and temper of our people, the only one, in the event of foreign war, would be the vicinity of our frontier and sea-coast. Hence the most important part of

our peace establishment is unquestionably that designed for the defense of the permanent coast and frontier defenses, or the Artillery of the U. S. Army. I propose to show that it is the most neglected, the least adequate, and the most inefficient, of any part of our military forces for the purpose for which it is employed; and that whatever criticism may justly apply to our coast defenses may with equal justice be applied to this arm of the military service.

The U. S. Artillery is organized into five regiments, each consisting of 10 heavy and 2 light batteries; the former, designed for service in permanent fortifications, and the latter for field service with troops. The aggregate strength of the five regiments, constituting the sole reliance of the Government to resist the first attack of any foreign power, is but 280 officers and 2,650 men, or in all 2,930, scarcely one-tenth of our military peace establishment. Each heavy battery has by law a maximum strength of 4 officers and 40 men; hence the total personnel available for the coast defense of 4,000 miles, is but 200 officers and 2,000 men, leaving nothing for the thousands of miles of frontier. The battery being the unit of this organization, the heavy artillery is distributed so as to preserve the integrity of this unit, as follows:

This table shows at a glance, that this force is entirely inadequate for the defense of the sea-coast fortifications designed to protect our cities and harbors. For, considering the Atlantic coast alone, it appears that but three batteries are assigned to the great Northern bay extending from New Brunswick to Cape Cod, but two batteries at St. Augustine for the whole Southern bay from Cape Hatteras to Key West, while the great Central bay from Cape Cod to Cape Hatteras, though rich in fine harbors and great cities, has but twenty-two batteries distributed among eight garrisoned works. But a single battery comprising 44 officers and men cannot be called a protection for the whole coast of Maine; neither can two batteries insure the safety of Boston, and the Massachusetts coast; nor is New York defensible, with but two batteries covering the East River approach and with but seven at the most, that by the Narrows. Indeed these scattered fragments of the regiments of artillery are not garrisons, but rather caretakers of the works at which they are stationed, and so long as the Artillery retains its present numerical strength, the coast and frontier must remain inadequately defended.

The efficiency of the Artillery depends on actual experience, on

## DISTRIBUTION OF HEAVY ARTILLERY, U. S. ARMY.

	No. of Batteries.	Names of Batteries.	Regiment.	Garrisons.	Locations.	Officers.	Men.
Maine Coast	1	M		Fort Preble,	Portland, Me.	4	40
Massachusetts Coast	2	H, K		" Warren,	Boston, Mass.	8	80
Rhode Island	4	D, E, G, L	4th	" Adams,*	Newport, R. I.	16	160
Connecticut	2	A, C		" Trumbull,	New London, Conn.	8	80
	2	E, K		" Schuyler,	East River, N. Y.	8	80
New York	3	A, C, H	5th	" Columbus,	Governor's Id., N. Y.	12	120
	3	I, L, M		" Hamilton,*	Narrows, N. Y.	12	120
	1	B		" Wadsworth,	" "	4	40
Maryland	3	D, G, I	3d	" McHenry,	Baltimore, Md.	12	120
Virginia	5	G, K, M, I, G	I, 2, 3, 4, 5	" Monroe,	Old Pt. Comfort, Va.	20	200
Florida	2	G, L		St. Francis' Barracks,*	St. Augustine, Fla.	8	80
Gulf	2	B, H	2d	" "	Atlanta, Ga.	8	80
	2	C, D		Mt. Vernon Barracks,	Alabama,	8	80.
	2	I, M		Jackson Barracks,	New Orleans, La.	8	80
Pacific	4	A, C, I, L	1st	Presidio,*	San Francisco, Cal.	16	160
	2	B, H		Alcatraz Island,	" "	8	80
	1	M		Fort Mason,	" "	4	40
	2	D, F		" Canby,	Astoria, Oregon.	8	80
43 Batteries for Coast defensive works, aggregating						172	1720
Interior Stations	5	A, E, H, K, L	3d	Washington* Newport Bks. Little Rock.	Dist. of Columbia Newport, Ky. Arkansas.	20	200
	1	B				4	40
	1	E	2d			4	40
Total, 50 Batteries, aggregating,						200	2000

\* Regimental Headquarters.

the skill acquired by practice with its armament, and upon the character of the organization which forms its personnel into a military body. Considering first the organization, the preceding table shows that the battery or post is the real, and the regiment the hypothetical organization; for the heavy artillery is scattered among twenty-one separate posts, and therefore constitutes twenty-one distinct commands, viz.: 5 of one battery each, 9 of two, 3 of three, and 2 each of four and five batteries. The responsible authority in each of these posts rests in its commander, who reports directly to the general officer commanding the Military Department within which the post is located. The sequence of authority excludes the colonel of the regiment, who therefore commands only that portion of his regiment assembled at the particular post, which, for the time being is the regimental headquarters. Examining the table again, it appears that while no colonel commands more than five heavy batteries, the colonel of the 2d Artillery commands but two of his ten. Now a colonel can establish the standard of drill, discipline and efficiency of his regiment, only when he personally commands it as a unit. He can neither control, nor permanently influence these elements in the detached batteries; for the immediate commander having the authority is jealous of his prerogative. In our Service, the artillery colonels seldom, if ever, inspect their detached batteries, nor are they allowed to, except by special authority; they cannot authorize the expenditure of a single round of ammunition; they are limited to a mere paper administration of regimental minutiae, and have scarcely any more influence in respect to the improvement of the artillery service, than any other field officer of the five regiments. Even if any one colonel could impress his regiment with unity of spirit and endeavor, it could not be lasting; for the distribution of parts is too extensive, the duties too varied, and the ambitions too diverse, to maintain this condition long even in a single regiment.

Instead, therefore, of having at most five commanders of artillery, from whom an approximately uniform system of artillery practice, and a decent standard of efficiency *might* possibly be hoped for, we have instead a hydra-headed organization, as diverse in its aims, as it is scattered in extent.

It is a lamentable, but well-known fact, that the Artillery personnel has steadily deteriorated since the close of the Civil War. *Then* it was active, efficient, well-drilled in its special arm, and in

complete accord with the defenses of that period. *Now* it is inactive, inefficient, and wholly unskilled in the use of the modern armament. It is incapable of making an active defense in case of a sudden emergency, in any garrisoned work on the coast; for such a defense absolutely requires a protected modern armament skilfully handled. The Artillery personnel can not be held responsible for this lack of skill and the consequent inefficiency, for the very good reason that the Government has never supplied the means by which alone these defects could have been remedied. But that the present inactivity is the legitimate result of the existing organization, the following statements sufficiently substantiate:

The existing armament, though mainly consisting of the obsolete guns of the civil war epoch, have a subsidiary value in the defense of the minor harbors, and for this reason, and while awaiting the construction of more modern guns, practice with them should have been persistent and unceasing. But excepting at Fort Monroe, and occasionally in the harbors of New York, Boston and San Francisco, such practice has almost entirely ceased at most of our forts. Consequently, while the majority of the junior officers of artillery have had but little heavy gun practice, there are some, of at least eight years service, who have never even witnessed practice firing from the 15-inch gun. Because of weak garrisons, which prevent heavy gun drill at most of the smaller posts, of the danger to passing vessels in the vicinity of the larger garrisons, and of a parsimony affecting the whole Service, the Artillery has been forced to practically abandon its special arm—the heavy sea-coast gun. And what has usurped its place? *The infantry musket!* Practice with it absorbs to-day the almost undivided attention of the artillery personnel. An eager competition with the infantry regiments, for the awards as marksmen and sharpshooters, has invaded its rank and file to the complete exclusion of its own legitimate practice. The Artillery are in reality Infantry, with red, instead of white facings on their uniforms, and are constantly employed on infantry duty. We have no longer any artillery troops. Can any one believe, that the Artillery would have submitted to this absolute surrender of its legitimate function, under any other than its present divided organization? Or have been infected, with the recent excessive craze of musketry target practice, which, however intrinsically valuable, does not constitute the whole of the Art of War, and

which certainly should have but little, if any, foothold in the Artillery?

#### DEFECTS OF REGIMENTAL ORGANIZATION.

Here then is the indictment which can dispassionately be brought against the regimental organization of the Artillery during the twenty-one year period most fruitful in radical changes in the science and art of artillery. The regimental organization has not only failed to improve the personnel during this period, but is responsible for much of its deterioration. It has proved its incapacity to effect reformation, and to demand governmental attention to its growing inefficiency. It has prevented its officers from acquiring a practical knowledge of their profession, and has exacted instead a rigid and monotonous devotion to relatively unimportant matters, such as routine garrison duty, infantry drill, musketry practice, etc., which are of no peculiar or special value, *per se*, to the artillery service. It has sapped the professional activity of its officers, so that it is a matter of grave doubt, whether those of the higher grades can well master the new special duties now demanded of the accomplished artillerist, within the ever-lessening period of their remaining active service. It has driven many meritorious, ambitious and most capable young officers from the Service, and has infected those that remain with an apathy and listlessness, that is antagonistic to professional zeal, and is subversive of discipline and good morals. It has practically destroyed promotion, and thus has converted an honorable scientific profession into an indifferent calling, only bearable because it affords a semi-respectable existence in the Government service.

Here are the facts as to the past, and the prospects for future promotion under the regimental organization. The sixty captains have already served 24 years as commissioned officers, and the 130 first lieutenants average, at the present writing, sixteen years similar service; but among the latter are seven who have spent 24 years as commissioned officers, and who can never hope to rise above the grade of captain, before retirement overtakes them. Furthermore, since the 25 present field officers will not all be retired for sixteen years, the last of the first 25 promoted captains will have served nearly 40 years, before attaining the grade of Major. Such are the rewards bestowed on officers of merit, under the present system, in which professional pride and

ambition are suffocated by a life of enforced mental inactivity, and a daily routine scarcely differing from that of a prison.

Due then to a combination of causes, some distinctly traceable to governmental neglect and inaction, and some inherent in the existing organization, the present condition of the artillery personnel, as a body, is in the highest degree discreditable to the army and unworthy this great nation. If any good thing could be said in favor of the regimental organization of the artillery, I would gladly record it. But believing that the apathetic indifference, which now overshadows at least all the subalterns of its personnel, is a destructive cancer, having its roots in such an organization, I do not hesitate to express my strong conviction of its worse than inutility.

#### REORGANIZATION ESSENTIAL.

An immediate and radical reorganization of this arm of the Service is the only measure by which its baneful influence can be destroyed and permit a thorough recuperation not only of its individual members but of the Service as a whole.

No foreign service possesses a body of officers so unspotted in honor and integrity in general, so capable in intellectual and scientific ability, or so single-minded in devotion to their profession as those who grace the rolls of the artillery of the U. S. Army. Perfectly competent to master every requirement of the modern system of sea-coast defense, they ask only the means and the opportunity. They cannot make bricks without straw. They have a professional right to demand a knowledge of the guns they are to fight, the works they are to defend, and the harbors they are to protect. My opinion of their qualifications is based upon an intimate personal acquaintance, of nearly twenty-five years duration, with a majority of the officers of all grades of the artillery, and is supplemented and confirmed by the general reputation, which the army honestly and frankly contributes with regard to them. I have seen over three hundred thoroughly trained students leave the Military Academy to enter the artillery service. They were then full of honorable ambition, devoted to their profession, of excellent mental fibre, and eager for active service in any capacity. I have met many of them in after years, listless, depressed and cynical. The Academy sent them out bright, capable and full of ambition; the Service enveloped them with such an atmosphere of professional inactivity, and narrowing routine, as to effectually

cause honorable endeavor, professional pride and hope of improvement, successively to wither and die within them. The Academy exacts thorough work from its pupils and gets fine results often from unpromising sources, but its seed is cast in stony ground. To show that the Service is responsible for their subsequent retrogression in professional interest and qualification, contrast the graduates assigned to the engineers, and to the artillery. Their relative ability, industry and capacity were not so distinctive as Cadets as to be strongly marked, except possibly at the extremes of class standing. Yet of the 77 graduates entering upon the active duties of the Corps of Engineers, in the twenty-year period from 1866 to 1885 inclusive, but five have resigned; while of the 253 corresponding graduates assigned to the inactive artillery, one-fifth have left the service, and one-eighth have obtained transfer, principally to the Ordnance Department; so that, together with other casualties, but 151 now remain in the artillery service. Artillery officers eagerly seek Staff appointments, not wholly for the attendant promotion, but rather to escape from their indolent and inactive life.

This general disaffection of the subaltern officers of artillery is not of recent development. Of the graduated cadets assigned to the Artillery in the twenty years before the Civil War, the records show that but one-fifth remained in this arm; more than a fourth obtained transfer, and nearly the same proportion resigned after an average service of but six years. Had there been a seasonable inquiry into the causes of this exhausting depletion, the Artillery would not now be afflicted with its present stagnation.

It is well known that the great majority of the artillery officers are personally men of exceptionally fine character and ability, and it is distressing to note how worse than hopeless their future appears, as this lifeless regimental organization closes in succession each avenue of intellectual and professional endeavor. But individually their record is most excellent. Thus the author of the best treatise on Exterior Ballistics is Capt. Ingalls of the Artillery; the best history of the Artillery was written by Birkhimer; the text-book on Military Law and Courts-martial was prepared by Ives; competent critics give great praise to Reed for his work on Topographical Drawing; Scott's literary and critical labors in preparing the series of volumes relating to the Civil War are everywhere recognized as of the highest value; Bliss has won a reputation as a student of Strategy, and as an Instructor at the Naval War

College; Williston, Sanger, Zalinski, Totten, Johnson, Wisser, Harris, Pratt, Anderson, Macomb, Lemly and many others, have each in his own particular way made enviable reputations, and all this in spite of adverse surroundings. As to the veteran officers of Artillery, their glorious record of war service is woven into the history of their country. In every capacity, whether serving with their special arm, or detached and in the command of an army, corps, division, brigade or regiment, signal ability in their profession has always marked their conduct. But when they sought for a proper recognition of their own chosen arm of the Service, even the personal merits, recognized attainments and distinguished services of such men as Hunt, Barry, Hamilton, Ayres, Morgan, and other enthusiastic and devoted artillerists, have been wholly ignored and disregarded. Their active service terminates with a rank gained by seniority promotion alone, their persistent efforts have successively failed, their cherished hopes have all departed and they leave, as a legacy to their successors, the artillery service in the worst possible state of stagnation. What more conclusive evidence is required to prove that such a personnel, animated by a live organization, directing their abilities to the advancement of their profession, would not have reflected the greatest credit on their own arm as well as on the Army?

The stagnation of the Artillery is also intensified by the persistent neglect to which it has been subjected for so many years. Instances are exceedingly rare where opportunities have been granted artillery officers for professional instruction and improvement. To learn anything about modern gun construction; to be present and take part in the testing and proving of guns; to be admitted into the professional secrets of harbor defense; in short to have any part or parcel in matters immediately concerning their own profession, is contrary to the practice that has too long prevailed in the Army. Rigidly excluded from all participation during the period of preparation and construction, they will nevertheless be held strictly accountable for whatever defects may be developed after the system is given into their custody. If this neglect of the Artillery affected only the professional fortunes of its personnel, it might perhaps be dismissed in a word and charged against the "ingratitude of republics." But its consequences are more serious. It threatens the safety of a great country and endangers the interests of a great people. It has shorn the Artillery of its strength, whose restoration, absolutely

essential for the security of our coast and frontier, can only come with time. With officers unskilled, gun detachments untrained and weak garrisons at but a few points on the coast and none on the frontier, the fate of Alexandria will be ours at every point attacked by an enemy, unless the present evils be first eradicated and then opportunity for the development of a new and vigorous life be provided for.

#### SUGGESTIONS FOR REORGANIZATION.

Turning now from these glaring defects of the existing establishment I venture to submit with diffidence the following suggestions looking to an active and efficient reorganization of the Artillery.

This branch of the military profession is essentially and peculiarly scientific in its fundamental requirements. The professional knowledge of the modern artillerist must embrace the theory of gun construction; the composition and analysis of powders; the material and form of the heavy rifled projectiles; the construction of the heavy yet easily-moved gun carriage, with its intricate mechanical appliances for pointing and manœuvring; the qualities, methods of assembly, strength and resisting capacity of armored plating for forts and ships; the theory of interior and exterior ballistics; and the theory of gun strains, air resistance, energy, etc. This theoretical knowledge must be accompanied and confirmed by experimental trials with all the newly-devised armaments at properly equipped proving grounds; by observing and noting defects and devising remedial measures; by actually commanding, drilling and exercising gun detachments as in actual engagements; by learning the defensive strength and capabilities of the various fortified places, the characteristics of each harbor and channel, and the possible locations and positions of attacking vessels; and by locating and managing lines of torpedos. As a future commander, the artillerist must be instructed in the principles relating to the organization, strength and care of a garrison; and in the many details concerning the supplies, ammunition, etc., required for an active defense. The devotion of a life-time is needed to thoroughly master the many subjects which must of necessity engage his attention from the time of his admission as a junior officer until he becomes superannuated.

It will be noted that the sound knowledge of his art requires a previous knowledge of the principles of mechanics, chemistry,

metallurgy, electricity and other branches of physics, and these demand for their mastery a fair aptitude for mathematics and a knowledge of mathematical processes.

A due consideration of these essential requisites leads me to the conclusion that the best possible organization for the Artillery of the U. S. Army is that of a scientific corps, somewhat similar to the present Corps of Engineers. With such an organization the Artillery in particular and the Service in general gains in every essential and is deprived of nothing that is of any value. The yearly accessions of the Artillery are, with rare exceptions, high graduates of the Military Academy, who are excellently well-grounded in all the sciences necessary for the making of an accomplished artillerist. At present these young gentlemen find themselves released from obligatory mental activity at the very period when their intellectual, moral and physical condition is the best possible for its continuance. This results in serious injury to them and is detrimental to the Service. Making no progress in professional acquirements, they soon fall into a perfunctory performance of duty and are subjected to all the evil consequences of indolence and inaction; or, seeking other avenues of mental occupation, either resign the Service, strive to be detached from their special arm or devote their abundant leisure to purely personal pursuits. It is idle to assume that proficiency or excellence can be attained in any profession without incessant labor, especially at the beginning of a career, and it has been shown that the demands which modern artillery make are by no means insignificant.

The Artillery School at Fortress Monroe has amply justified the wisdom of its founders, in the unquestioned benefits it has already conferred on the subaltern officers of artillery since its establishment. But, in the opinion of many, it has not yet reached its highest and possible standard. In a professional school, such as this aims to be, every course of instruction should be intimately concerned with the science and art of Artillery alone. It is neither proper nor desirable to teach there the rudiments of an academic education nor the principles of generalship. Under the direct charge of a Chief of the Corps of Artillery it ought to be a potent factor in directing the scientific functions of the Corps, and its courses of instruction should be revised and adjusted in harmony with the demands of modern sea-coast defense.

In the Military Academy and Artillery School we have the

essential foundations of a scientific corps organization already at hand. A judicious selection of an artillery officer, thoroughly alive to the whole question, to be Chief of the Corps, who should be of mature age, good executive ability and scientific aptitude is alone necessary to launch the organization upon a prosperous voyage. We will now briefly note the prospective advantages:

#### PROSPECTIVE ADVANTAGES OF THE PLAN.

1. From a careful consideration of all the varying conditions which necessarily affect the Artillery in garrisoning its many posts, the Chief would fix upon and establish a general and uniform standard of drill, discipline and efficiency, referring doubtful questions to Boards of artillery officers for discussion, deliberation and recommendation. Hence *unity* would at once replace *diversity* in these essential particulars.

2. The Chief would become responsible for the assignment of his officers to the command of the various forts and to those special duties required for the best administration of his corps. In the exercise of these powers he would not be obliged necessarily to pay undue attention to the claims of rank alone. Exercising a strict supervision, through frequent and thorough inspections, the commanders of all forts would be held by him to a strict accountability for the condition of the works and armament, and the discipline of their troops, indeed in all that pertains to efficiency as artillerists. Being directly subordinate to the Commanding General of the Army the latter has the advantage of immediate and accurate information regarding the condition of every fort on the coast, while the former by his rank and position can compel attention to his recommendation in all matters pertaining to an active sea-coast defense.

3. Properly appreciating the relative importance of the various problems by his scientific sense, and utilizing the able body of officers under his direct command by executive ability he can employ the whole corps in the most judicious manner and inspire its members with zeal and enthusiasm for their profession—*activity* would thus replace *apathy*.

4. Practice and proving grounds similar to that at Sandy Hook would of necessity be established. Artillery officers would take part in the proof and test of every piece of ordnance, either independently or in conjunction with those ordnance officers detailed on gun construction duty. By extending the benefits of such

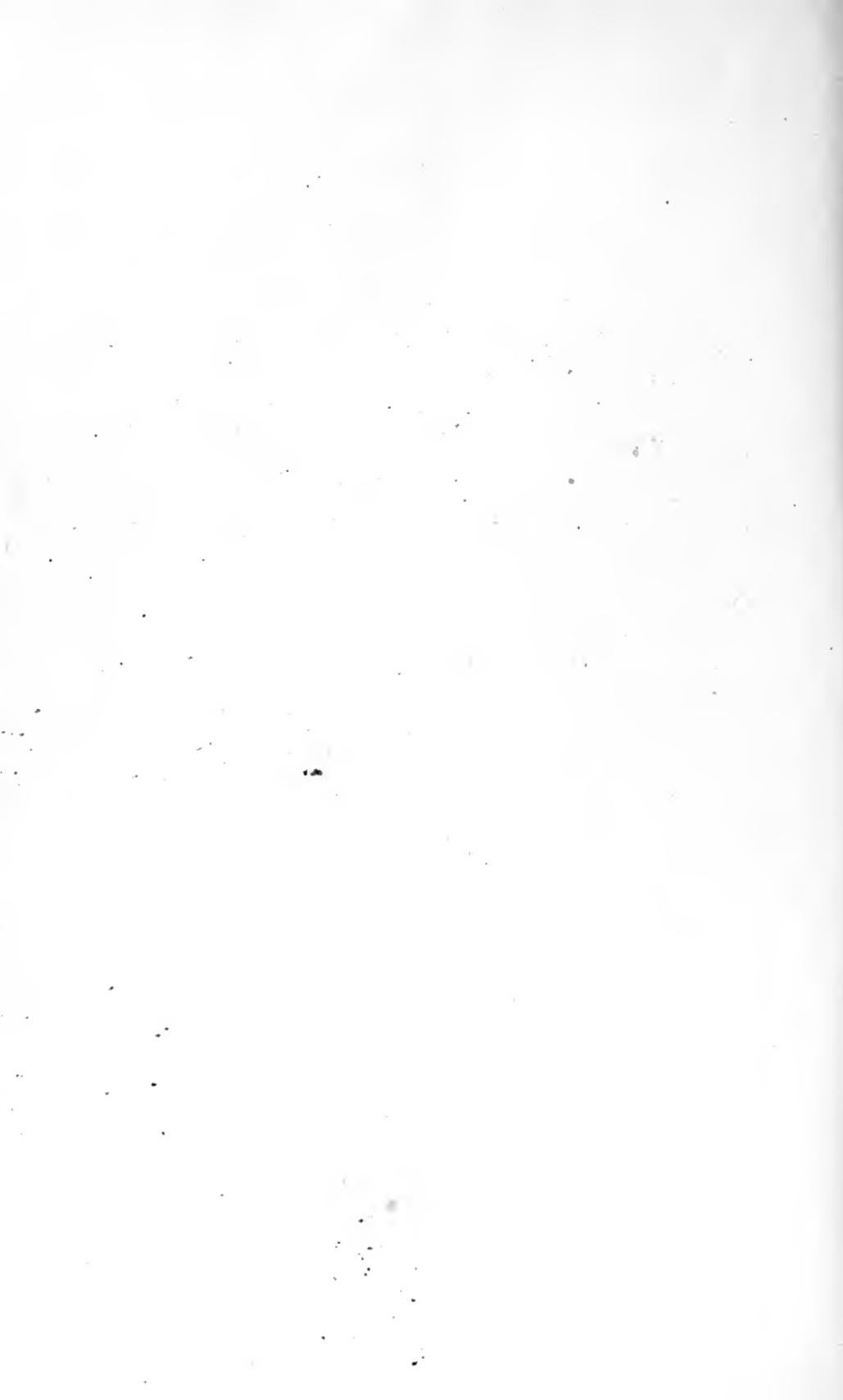
practice and professional *artillery* knowledge to the many, instead of confining it to the few as at present, the Service would gain greatly in efficiency, the armament would develop more systematically, and the resulting modifications would be less tentative and more decided.

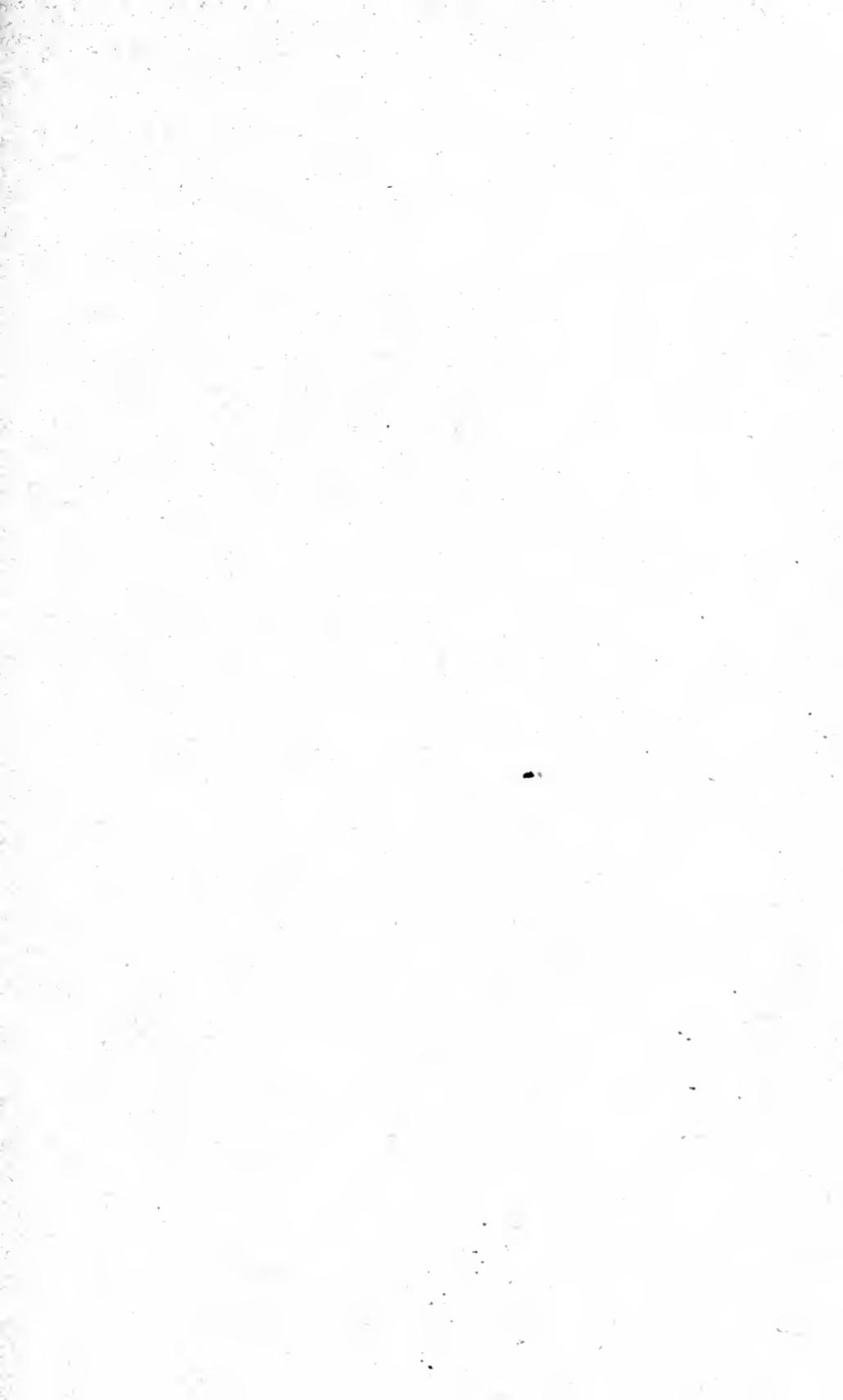
5. Many of the inconsistencies and injustices which now affect the artillery could never have arisen under a proper organization. A correct appreciation of the priceless importance of an accomplished artillerist in time of war should lead to the consideration of the proper award to be offered him as an equivalent for the complete devotion of his life and talents to the public service. All that the Government can offer is the reward of advanced rank after long and faithful service. And it will certainly be acknowledged that under the present system this is altogether inadequate, invidious and unjust: for there can be no reason why the field officers of artillery should be but 9 per cent. of the number of its officers, while the corresponding per cent. of the Cavalry, Ordnance and Engineers are 12, 30, and 40, respectively.

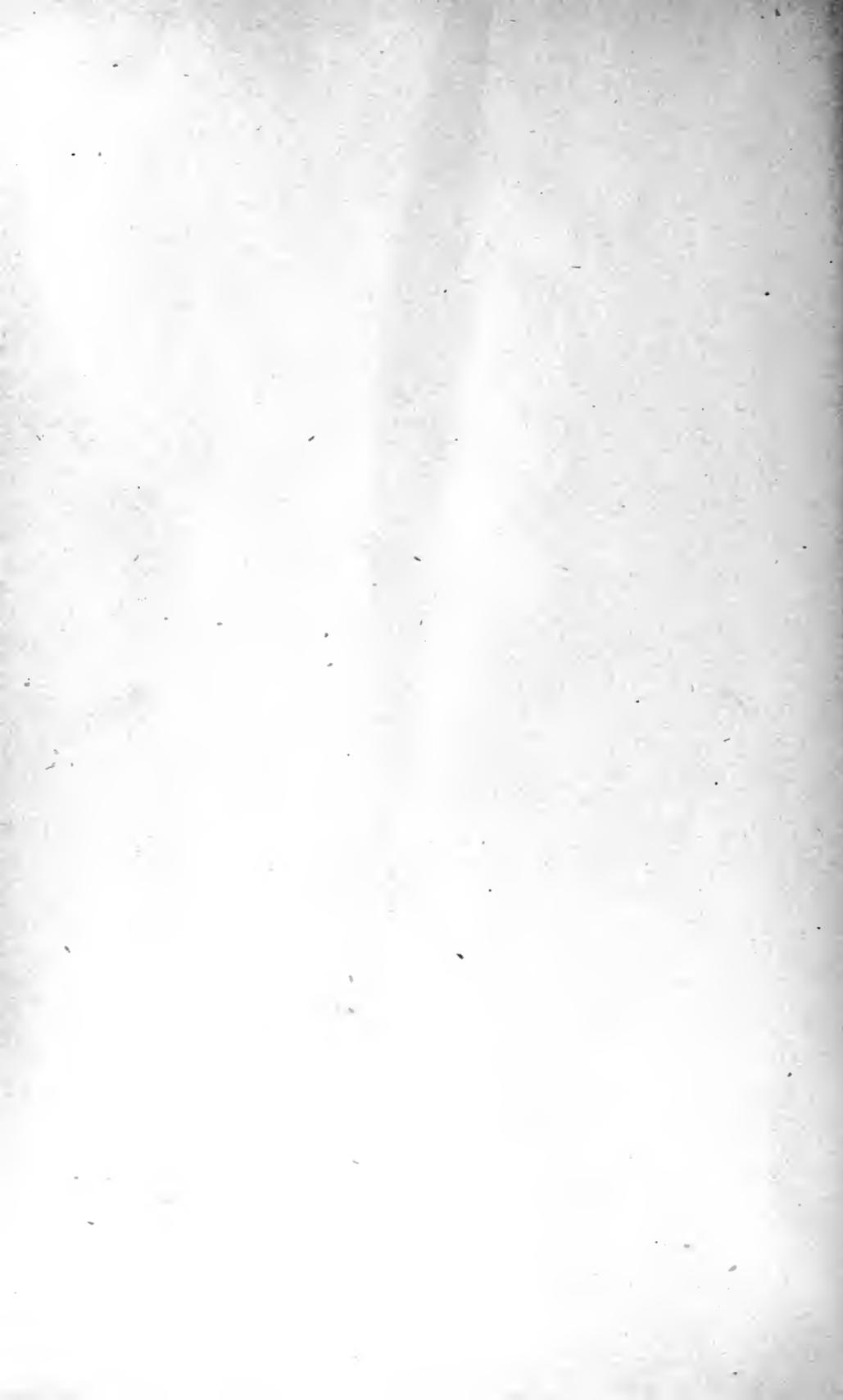
In conclusion, it is well to remember that of all arms of the Service, the Artillery is essentially the one which requires National support. The several States do now pay some attention to elementary drill and tactics of infantry troops and could just as well, to those of cavalry and light artillery. From the great body of volunteers who have seen service, the best of Infantry and Cavalry can readily be drafted. Officers of the regular army and of the volunteers could supply a more or less efficient Staff for an emergency. But as the General Government must fortify our sea-coast and supply armaments of great guns for their protection, it is bound to organize and make adequate and efficient the personnel for their garrisons; for *there is no other way* by which such a personnel, having duties so intimately dependent on scientific and military principles, can be created and sustained. By reason of the conditions affecting our military peace establishment and of the enormous interests whose security depends on the efficiency of the Artillery, the latter is seen to have a much greater relative importance with respect to other arms of the Service than has heretofore been accorded it. A continued misapprehension of this importance on the part of our civil and military authorities will certainly result in serious disaster to the country in the event of war with any European power.

Recent public opinion strongly favors the establishment of a

system of National defense. The time is therefore ripe for an earnest and judicious consideration of the subject. However much opinions may differ as to minor details, the general sentiment of the Army favors economy in administration, efficiency in the performance of duty and thoroughness in training. Time and opportunity, are essential in the last two requisites and especially so for the Artillery. Any discussion that leads to a knowledge of imperfection and has for its object an improvement in the service needs neither apology nor explanation. The important question is whether the alleged imperfections exist, and are not trivial, and what should be the remedy. If the above be a true exhibit of the actual condition of the Artillery of the Army, the question is serious enough to engage the earnest attention not only of the Army but of the whole country.









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