

ANNUAL REPORT

OF THE

BOARD OF VISITORS

TO THE

United States Military Academy

MADE TO

Congress and the Secretary of War,

FOR

THE YEAR 1821.

1821.

The Undersigned, composing a part of the Board of Visitors to the Military Academy at West Point, have the honor to report, that the Academy appears now to be in a proper state to receive a definite organization. This subject has occupied their chief attention, and they hope that their observations on it may meet with the approbation of the Secretary of War

The constant and indefatigable care of the Superintendent, Major Thayer, with the application of his talent and exertions, have raised this Institution to a higher degree of excellence than could have been expected from the state in which he found it, and it now only wants a little of the following care of government to render it perfect.

Every portion of the time allotted to the instruction of the different classes is utilized; not a moment is lost; the course of study embraces, in one entire assemblage, all the theoretic branches necessary to a military education; the discipline is as strict, and as just, as the nature of an Institution, without fixed Rules and Regulations admits of and decency, love of order, and elevated sentiments appear pretty generally to govern the conduct of the Cadets. The newly admitted pupils have before their eyes the example of those more advanced, willing to submit to the Military and Scholastic discipline, which is indispensable for the attainment of the objects of the Institution.

Before entering into any details of what will form the chief topic of this report (the organization of the Academy) it may be proper to examine what are the objects of the greatest utility to which the education here given should be directed. To fill the vacancies in the Army with those who are capable of performing the duties of Officers, and to spread a knowledge of the exact and Military exercises among the Citizens, have hitherto been considered as objects sufficiently important in their own nature to demand a National Establishment, and to warrant the consequent expenses. But this Academy may, without expense, be made to furnish Civil Engineers for roads, bridges, canals, and hydraulic constructions, as well as Military and Topographical Engineers.

In Europe, the branches of knowledge necessary to these different professions, are acquired in particular Schools; and those who are designed for them, having open to their inspection unequalled works in the different arts already executed, together with every possible source of information respecting them, find no difficulty in following the courses of

public Schools, maintained for their special instruction. But in the United States, the Military Academy at West Point, is the only establishment where a complete system of Instruction in Mathematicks, Descriptive Geometry, Mechanicks, Astronomy and Civil and Military Architecture is procured and which afterwards places the pupils in situations, where they have an opportunity of exercising the different Civil and Military avocations, to which the application of the exact sciences is indispensable.

If we add to these considerations another, that in the case of a person who has studied it at a public Establishment (created for any particular purpose) the course of studies which he must have there pursued, necessarily offers to the public a greater moral guarantee of his capacity, than can be expected in the case of one who has not pursued any regular course of instruction. Hence it is but just to conclude, that the Students of West Point, after passing through their regular course of studies would inspire the different States in the Union, with a confidence in their abilities, and be cheerfully employed by them, in their Civil constructions and in Topographical and Geographical surveys, if it were possible to obtain their services. To render this so it is proposed, to add to the Corps of Military and Topographical Engineers, a certain number of assistants who may take rank in their Corps, as vacancies occur, but in the interim be put at the special disposition of the States requiring their services. By this means West Point will become a nursery of men of talents, not only for the Army, but also for the civil purposes of the different States. To those who are thus educated, as to persons skilled in the exact sciences and in their applications, will hereafter be confided the important works, which are now committed to men who merely understand their business Mechanically, and are generally of mean abilities and of no learning, in those cases at least where persons from Europe cannot be obtained possessed of the Theoretical and Practical education which is wanted. By an arrangement like this, there will be more certain employment than at present, given to such of the Cadets as succeed in the higher branches of instruction, and they will be more stimulated, by the hopes of advancement, in their exertions to obtain places of distinction. Many of them at present pursue their studies in the higher branches of education, actuated more by a sense of duty, and in obedience to the rules of the institution, than by any other motive. Whatever zeal they may have once possessed abandons them, the moment they perceive that they have no prospect of ever bringing into use the great Theories which they were forced to study; and at leaving the Academy they run the risk of forgetting all their learning, before they have had an opportunity of making use of it. This being admitted, the objects to be obtained from a definite organization of the Academy, ought to be (besides extending the study of exact sciences) to form Officers of Infantry, of Artillery, and of Military & Civil Engineering. It will readily be perceived that these branches require some learn-

ing that must be common to all; for example, the elements of Mathematicks; that certain kinds of knowledge are indispensable to one, and altogether useless to another; thus the Civil or Military Engineer cannot become perfect in his profession, without being acquainted with the integral and differential calculus, while to an Infantry Officer the same knowledge is altogether useless.

The course of study therefore at West Point, ought to be conducted in such a manner that the Cadets who are intended for any particular service ought to learn everything that is necessary to the understanding and the performing of the duties appertaining to that service; everything that they learn beyond this may be lost to them and to society, since they may never have an opportunity of bringing it to any use. Besides, among 200 to 250 young men, it is not possible to find more than a limited number who are sufficiently studious and endowed with faculties requisite to enable them to comprehend all that is taught even now, at West Point, beginning from the elements of Mathematicks, and advancing to the higher parts of the service. It is, moreover, an experiment, uncertain and expensive to the public, to oblige a Cadet who is destined for the Infantry service, and for whom two years of instruction are sufficient, to spend two years more at the Academy, attempting to pass through, without sufficient motives of interest or emulation, a course of difficult studies that never can be of any use to him. The consequences of this are: 1st, that the expense of the Institution is uselessly increased; 2d, there is a want of general emulation among the cadets; 3d, many become disgusted because they are unable to shine in the higher branches of instruction, and resign when they might still be successful and move with distinction in situations that require less exerted knowledge. All these considerations lead us to regard the distribution of the studies at West Point, and their succession as susceptible of a critical examination. Let us give a sketch of the present actual system, and it will be sufficiently apparent that the arrangement of matters there taught is as much as tends most to the fulfillment of the ends of the Institution.

4th Class, 1st year—Algebra, Geometry, Plane and Spherical Trigonometry and the use of Logarithms, French language.

3d Class, 2d year—Descriptive Geometry, Application of Algebra to Geometry, Analytical Trigonometry, Integral and Differential Calculus.

2d Class, 3d year—Mechanicks, Astronomy, Physicks, Chymistry; Drawing.

1st Class, 4th year—Fortification, Artillery, Tactics, Civil and Military Architecture, Application of descriptive Geometry to Stereotomy &c, Geography, History &c.

On a mere inspection of this sketch, it will be perceived that a Cadet before he can be admitted into the Infantry, has to pursue the course for four years, and that the studies of little use to him are: 1st, all those taught

during the second and third year, the French, the Drawing and perhaps the Physicks & Chymistry excepted; 2nd, Permanent fortifications, Civil and Military Architecture and the applications of Descriptive Geometry taught during the fourth year, even if he should make any proficiency in them, are superfluous to him. A like mode of revising may be applied to the studies; of those who are intended for the Artillery and for the two Corps of Engineers, all of whom lose much time in learning what they never can bring to any practical purpose. Thus, the fault of this classification consisting in its not being suited to the different services for which the pupils are designed; the following arrangement is proposed with a hope that it may obviate the inconveniences arising from the former.

4th Class, 1st year—Algebra, Geometry, plane and spherical Trigonometry and the use of Logarithms, Elements of French & English Literature, Drawing.

3d Class, 2d year—The application of Geometry and Trigonometry to the drawing of plans, to surveying, levelling &c; Conic Sections, demonstrated geometrically; The elements of Artillery; The elements of Tactics and the general principles of the Art of War; French and English Literature; Drawing of Maps.

2d Class, 3d year—Descriptive Geometry and its applications; the application of Algebra to Geometry, including Conic Sections; the Integral and Differential Calculus; Chymistry; English Literature; Drawing.

1st Class, 4th year: Section 1st, Topographical Engineers—Elements of Mechanics; Astronomy; Chymistry applied to the Arts; Physicks; Elements of permanent Fortification; Geodesy; Projection of Maps.

Section 2d, Artillery—Mechanicks, Elements of Astronomy; Chymistry applied to the Arts; Physicks; Elements of Permanent Fortification; Attack and Defence of Places; Construction of Artillery.

Section 3d, Civil and Military Engineering—Mechanicks; Elements of Astronomy; Chymistry applied to the Arts; Physicks; Permanent Fortification; Attack and Defence of Places; Mines; Civil and Military Architecture; Roads; Bridges; Canals and Hydraulic Constructions.

According to this arrangement, the two first years comprise all the knowledge that might be common to the different branches of the public service for which the Cadets may be wanted; they also include all that is necessary to those who are intended for the Infantry. At the end of the second year the Cadets of the third Class being examined, and arranged in the order of merit, the best instructed will pass into the Second Class, and the rest will receive Commissions in the different Regiments of Infantry. As soon as those who are judged fit to proceed further than the second year, shall have entered into the second Class, they will take rank before those of their class who have already been Commissioned in the Infantry; they will receive the same pay, will wear some distinguishing badge, and be called Cadet Officers.

There can be no doubt but that emulation, with all its attendant good consequences, will by this means be considerably increased, and it will be shewn hereafter that a real economy in the expenses of the Institution will be obtained.

We may remark by the way, that in the plan here proposed, the studies, which, in the present system of the Academy are pursued during the second year, will be transferred to the third; the matters taught during this course are of the most abstract and difficult nature, and it is not astonishing that they dishearten young men of sixteen years of age. Placed as they are, in the second year, they become one of the principal causes of the frequent dismissals from the Academy, which occasions needless expenses to the government and by wounding Parental vanity render the institution unpopular. But in the proposed plan, these matters are not entered upon until the third year, and then only by such Cadets as have shewn the greatest genius and taste for study, and who are more familiarised with the labours of the mind.

During the third year, the Cadet Officers constituting the second Class, will receive instruction in such knowledge as must be common to the Civil and Military Engineers, to the Artillery and the Topographical Corps. At the end of the third year, they will be examined and classed in the order of Merit, the first will have the privilege of choosing the branch of service into which he wishes to enter, then the second, and in like manner all the rest, until the last, to whom will naturally be left only what the others have not selected. This method pursued for many years at the Polytechnic School, has had the most happy results, in exciting and maintaining the highest degree of emulation among the Students. The Classification of the Cadet Officers being made, they will be divided into three sections: 1st, Topographical Engineers; 2d, Artillery; 3d, Civil and Military Engineers. These three sections composing the first Class, will have courses of instruction common to all, as is shown in the prefixed table, and also particular courses for the objects that more specially belong to the branch of public service for which each section is designed. At the end of the fourth year, each Section will be examined separately, and the order of Merit then determined upon shall be that according to which, each individual shall rank in the Army, or in the Corps to which he may be admitted: the expected results of this Classification, will naturally strongly excite their emulation and sustain their efforts during the whole preceding course.

Such is the plan, and such the subdivision of the education at the Academy, which we venture to recommend as the most proper for the attainments of the true ends to which this Institution is destined. It now remains for us to shew, that this system is more economical than the one at present followed. For this purpose, we will suppose that the annual vacancies in the Army amount to 50; namely, 20 in the Infantry,

20 in the Artillery, 5 in the Civil and Military Engineers, and 5 in the Topographical Corps; in these two last however, it will be remembered as stated above, that the number of vacancies will depend upon an increase of the Assistants. The Academy being in full operation, and the number of Cadets admitted being one fourth more than that of the annual vacancies, in order to make up for those who may be turned back, for dismissals and for deaths, the four Classes will be thus composed.

<i>4th Class, 1st year.</i>			
	Infantry, Artillery, Engineers.....	62	
<i>3d Class, 2d year.</i>			
	Idem	62	
<i>2d Class, 3d year.</i>			
	Engineers and Artillery.....	37	
<i>1st Class, 4th year.</i>			
<i>1st Section,</i>	Topographical.....	6	
<i>2d Section,</i>	Artillery	25	
<i>3d Section,</i>	Civil and Military Engineers.....	6	37
Total number of Cadets present at the Academy each			
year.....			198

According to the present system the Annual number of Cadets at the Academy (taking the same things for granted as above) will be

4th Class, 1 year	62
3d Class, 2 ,,	62
2d Class, 3 ,,	62
1st Class, 4 ,,	62
	248

Difference in favor of the plan proposed..... 50

Each Cadet receives nearly \$30 per month, the Academy will therefore cost \$18,000 per annum less, and by subtracting from this \$3,000, as the probable amount of the entire pay for the Cadet Officers, we shall have a complete gain of \$15,000 per annum. We have shewn before that the most abstract parts of the education are taught in the present system, during the second year; by the proposed plan they are postponed; from this alteration results many advantages, which it is necessary to point out more particularly than has yet been done. 1st. In the proposed plan the first year is employed in easy studies, and such as are open to the comprehension of every one, they require but little labour to the