order to divert him from his purpose, sat down before Bruſſels, thinking he ſhould oblige that prince to march to its relief, and abandon his enterpriſe against Namur ; but king William choie rather to suffer that city to bombarded, than to relinquiſh a very important conquest, in which he **was** in **a** manner sure of ſucceeding.

Sect. II. *Of Defence.*

*1. Of the Troops and Ammunition with which a fortified Town ought to be provided.*

As the goodneſs of the works, when a place is well pro­vided with troops, ammunition, and proviſions, is what en­ables it to hold out against the attack of an enemy ; so the want of any one of theſe three articles will not permit all the advantage to be reaped that was propoſed in fortifying **a** town. Men are properly the soul of a defence ; and with­out them the best fortifications in the world are not able to make any great reſistance against the enemy.

Therefore we must first of all lay down as a maxim, that **a** governor cannot make a good defence, unleſs he hath the number of troops necessary for defending the ſeveral posts, and obliging the enemy to pay dear for them. Immenſe ſums are expended in fortifying a place, in order to stop a strong army with a ſmall force : but what reſistance can the place make without exerting a briſk fire ; and what will thoſe heaps of walls avail, if they are not defended ? The garriſon of a town besieged ought to have a reaſonable stock of proviſions, in order to ſupport themſelves under the fatigue of military duty ; they ought alſo to have powder, arms, and generally every thing that is requiſite **to** annoy the enemy, and to stop the progreſs of their ope­rations.

It is not very eaſy to settle the number of troops necessary to defend a town ; the nature of the ground on which the place is situated, and the number of outworks, ought to determine the strength of the garriſon. M.Vauban in his Me­moirs reckons, that in a place regularly fortified with good bastions; half moons, and covert-ways, we ſhould allow 500 or 600 men to each bastion : That if the town has horn­works, 600 men may be likewiſe assigned to each of theſe ; and in proportion for the other outworks, according to the relation which their defence may require to that of the horn-work ; and the horſe ſhould be the tenth part of the number of the infantry.

This being premised, ſuppoſe a place has six bastions, there must be a garriſon of six times six hundred foot, which makes 3600, and the tenth part of that number in horſe, which makes 360. Hence a ſufficient garriſon for ſuch a place will be 3960 men.

In order to compute, as near as poſſible, the quantity of ammunition and provisions that may be required for ſuch a garriſon, we must calculate how many days they will be able **to** maintain a siege. The following are Μ. Vauban’s re­marks on this ſubiect.

|  |  |
| --- | --- |
| For the investing the place and the tracing the lines | Days. |
| 4 |
| For the opening of the trenches to the attack of the covert-way | 9 |
|
| For the attack and taking of the covert-way, and making lodgments in it | 4 |
| For the descent and passage over the ditch before the half moon | 3 |
|
| For fixing the miners, or for the batteries till the making of a reaſonable breach | 4 |
|
| Carry over | 24 |

|  |  |
| --- | --- |
| Brought over | 24 |
| For taking and ſecuring the interior part of the half-moon | 3 |
| For the passage over the great ditch before the two bastions, ſuppoſed to be begun before the taking of the half-moon | 4 |
| For fixing the miners, or erecting batteries on the covert-way, to lay the place open and make a reaſonable breach | 4 |
| For the defence and ſupport of the breach after the place is laid open | 2 |
| For the mistakes which the enemy may happen to commit, and their neglect in their works | 4 |
| Total of the defence | **41** |

In this defence it is plain we ſuppoſe a town to be forti­fied only with half-moons and a covert-way ; but if the half-moon had a reduit with a revetement and rampart, it might hold out four days longer. If there were retrench­ments in the bastions, they might retard the taking of the place five or six days. If the ditch was ſtrengthened with tenailles and caponiers, the passage over it might be pro­tracted two or three days. If there was **a** good horn­-work, or ſome other like fortification properly ſtrengthened with a half-moon, **a** covert-way, and retrenchments within the work, the taking of it would cost about 12 or 14 days. If this work had tenailles, the passage over its ditch would be later by two or three days. If there was a fore-ditch and a second coverty-way, the progreſs of the attacks would still be leſs rapid, and we might reckon 10 or 12 days for the taking of this second covert-way and the paſſage over its ditch. If there were redoubts near the place, they would still protract the taking of it for ſome days.

From this estimate, though not very exact, an idea may be formed of the duration of a siege : a point abſolutely neceſſary for ſecuring, at least, a ſufficient quantity of ammunition during the time ; we say at least, because it is always prudent, if poſſible, to have a greater quantity of ammunition than is ſuppoſed to be wanted. When once the number of the garriſon, together with the duration of the siege, is fixed, it is then very eaſy to calculate the quan­tity of powder and ammunition with which the place is to be provided.

It is judged, that to be well provided with cannon, eight pieces ſhould be allowed to each bastion. Therefore in a place of six bastions there ought to be 48 pieces.

As a town is never attacked on all sides, and there are seldom above two or three attacks at the most, the cannon belonging to thoſe bastions that are not attacked, ſerve to strengthen the bastions attacked, and they are placed alſo in the outworks of the fronts attacked.

Among the cannon for the defence of the town there ſhould be ſome of 24, of 16, of 12, of 8, and of 4 pounders, and even of 2 and 1. The latter are of very great service,because of their being ſo convenient to remove with eaſe, and with few men, from one place to another ; for this disturbs the enemy, who find it difficult to deſtroy theſe ſmall pieces. The largest ſerve to fire against their batteries and their works. The ſmall ones are carried to the out­works, and to the covert way, from whence they are fired *en barbette.* It is customary to make use of ſea carriages for theſe ſmall pieces

Besides cannon, the town ought to be provided with a great number of wall guns, carabines, muſkets, &c. We are to ſuppoſe that most of the ordinary arms will be broke in the service, and therefore care must be taken to provide, new ones when wanted.

The number of mortars neceſſary may be estimated at