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No 31

Subject:
Transportation of Towns by Water

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Subject:

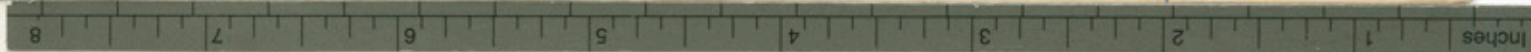
TRANSPORTATION OF TROOPS BY WATER.

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In 1862 Mc Clellan's army was transported to Fort Monroe from Washington, Alexandria, and Perryville, 188 miles, 121500 men, 14500 horses or mules, 1150 wagons, 44 Batteries, 74 ambulances, pontoon bridges, telegraph material and the usual enormous quantity of equipage, in 113 steamers, 188 schooners and 88 barges, in 20 days. It had, previously, taken 20 days to collect the transports.

Schofield's, 23rd Army Corps, after Nashville in Dec. 64, was transferred to the Potomac, 1400 miles, by river and rail in 11 days. After the same battle General A. J. Smith's Corps marched (in pursuit) to Eastport, Miss., on Tennessee River. From thence it was taken in river steam boats down the Tennessee, Ohio, and Mississippi to New-Orleans: thence, via Lake Pontchartrain and the sound to Mobile Bay: thence up Fish River in steamboats to Blakely (Spanish Fort), some 1500 miles. Fish river is a very narrow stream, overgrown and almost obstructed by sub-tropical vegetation. If I am not mistaken, no one, up to this time, had thought of its navigation by other than small craft. Yet very large steamboats, crowded with troops and stores, found their way up its course and around its many abrupt bends, the men frequently jumping on to opposite shores from bow and stern and pulling the boat around by long hawsers. The western rivers and river boats were peculiarly adapted for rapid and prompt embarkation. Large numbers of steamboats would be moored, one close to the other, by their bows to the river bank, and the

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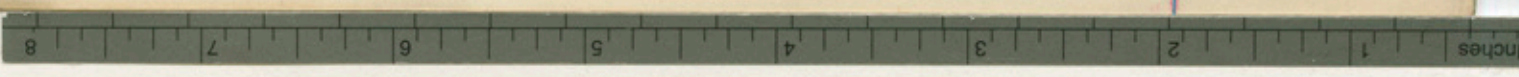


troops take the boats assigned them with no delay to speak of. The fleet would then move in single file, preceded and followed by gunboats, and, if large, with gunboats at intervals in the column. It was frequently necessary to land and drive away artillery or sharpshooters who menaced it from the banks, and the pilot houses were invariably protected with bullet proof shields. For these landings, light, especially selected troops were used who were placed in boats with wide gang-planks, the boats being run promptly to shore, the gang-plank lowered by special tackle and the troops standing ready to land and deploy at the run. The gunboat of the advance guard usually carried the commandant of the expedition, and he signaled his orders by a preconcerted code of whistle-blasts. These steamboats averaged 500 tons, and one of these would carry supplies for a corps for 3 or 4 days. Compared with a railway one steamboat was considered equal to 40 or 50 trains.

In the transfer of Mc Clellan's army referred to batteries were usually transported by a tug or steamboat with a schooner on each side for the horses, guns and forage.

The movement of troops by sea becomes difficult in proportion to the length of the voyage, and the varying capacity of the vessels make hard and fast rules impossible. In 1854 the English transported about 33000 men, 54 guns, and 3350 horses to the Crimea in 88 steamers and sailing vessels: total tonnage, 93000. England claims to be able to place on the continent 88000 men, 30000 horses, and 4300 vehicles, and it is stated that, short as is the distance,

The first thing I noticed when I stepped out of the plane was the humidity. It was a relief after the dry, dusty air of the desert. The ground was a mix of mud and sand, and the air was thick with moisture. I had heard that the humidity would be unbearable, but in this part of the world, it was just a warm blanket. The people here were friendly and welcoming, and they showed me around the city. I had heard that the humidity would be unbearable, but in this part of the world, it was just a warm blanket. The people here were friendly and welcoming, and they showed me around the city. I had heard that the humidity would be unbearable, but in this part of the world, it was just a warm blanket. The people here were friendly and welcoming, and they showed me around the city.



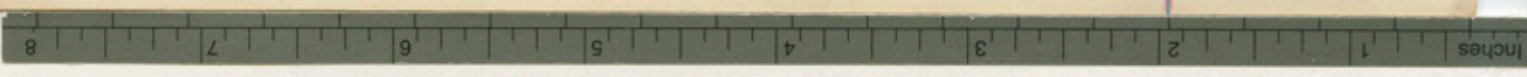
and great her resources, it would be impossible to collect ships enough to do so in one trip, and that two trips by the same fleet would be necessary. Ships enough are available, but their withdrawal from their usual avocation would seriously imperil the food supply of the islands. A vessel of 5000 tons, such as the English troop ships, will carry a battalion of infantry (1000), 70 horses, and 16 vehicles. The maximum effort that England can make is to transport 53000 men, fully equipped, with horses, guns and baggage, with food and forage for 14 days and for 14 days after landing. This does not include any calculation of finding draft animals in the theatre of operations. This allows about 2 1/2 tons for each man and his food, and 7 for each horse and his forage.

To land French troops in Italy—a 3 to 5 days' voyage 3 tons are allowed for a horse and 2/3 of a ton for each man. An actual example of crowding troops for a short voyage 2 nights and a day—is offered by the Turks in 1878, when each man had considerably less than 1/2 a ton.

The net tonnage of a steamer is usually about 40 % less than her gross tonnage.

An example of something like an invasion of an American State by a European power is offered by the French expedition to Mexico: 38657 men and 5724 animals, with 25948 tons of munitions of war. To do this 60 vessels made 76 voyages and required crews aggregating 17751, and consuming 109964 tons of coal. The vessels were, largely, steam transports and frigates, and a few sailing ships. This was between November 1861 and June 1863.

and great her resources, it will be necessary to collect
enough to do so in one fall, and that the value of the
land would be necessary. While enough are available
and their withdrawal from their usual occupation would early
enough (perhaps) the food supply of the islands. A vessel of
the same kind as the one used in the expedition would be
needed of capacity (1000-1500) horses, and 10 voyagers. The
main effort that would be made is to transport 50000
man, fully equipped, with horses, guns and baggage, with food
and forage for 14 days and for 14 days after landing. This
does not include any calculation of finding draft animals
in the theater of operations. This allows about 2 1/2 tons
for each man and his food, and 5 for each horse and his fo-
rage.
To land French troops in Italy - 5 to 6 days voyage
5 tons are allowed for a horse and 2 1/2 of a ton for each
man. An actual example of crowding troops for a short voyage
3 nights and a day is offered by the Turks in 1878, when
each man had considerably less than 1 1/2 a ton.
The net tonnage of a steamer is usually about 40%
less than her gross tonnage.
An example of operations like the invasion of an island
from the sea by a transport vessel is offered by the French
expedition to Mexico; Study and other animals, with 10000
tons of munitions of war, to be China 25 vessels, with 70
voyagers and recruited crews departing 1870, and commencing
10000 tons of coal. The vessels were, largely, steam, cross-
wise and triangular, and a few sailing ships. This was the



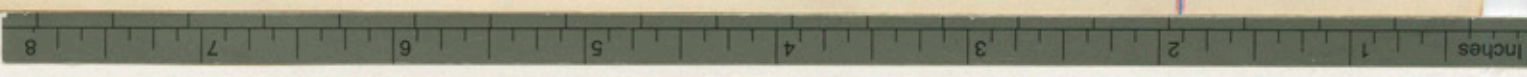
It would seem to be a fair statement that, in round numbers, 100000 men, 7000 horses, 1000 guns, wagons, stores, etc. could be transported for a week, allowing 1 ton per man, 3 tons per horse, and 6 for each vehicle and stores, requiring a net tonnage of about 150000, and a gross tonnage of about 240000 tons, or 80 steamers of 3000 tons each. These would have to be loaded at several ports, where the modern development of commerce has led to the construction of commodious docks and wharves, steam cranes, electric lights, etc. etc., while increased facilities for disembarkation exist also, even for landing on a beach.

But no nation has at its disposal at any given moment sufficient tonnage to transport 50000 men.

General Sheridan said in his report of 1884: "Excepting for our ocean commerce and our sea-board cities, I do not think we should be much alarmed about the probability of wars with foreign powers, since it would require more than a million and a half of men to make a campaign against us. To transport beyond the ocean that number of soldiers, with all their munitions of war, their cavalry, artillery, and infantry, even if not molested by us while in transit, would demand a large part of the shipping of all Europe. "

Following is a simple estimate and rule, which includes arms, ammunition, stores, vehicles for regimental and supply trains and supplies of food and forage:

It would seem to be a fair assumption that in some
cases, 10,000 men, 100,000 horses, 100,000 mules, etc.
could be transported for a week, allowing 1 ton per man, 5
tons per horse, and a lot more for mules and pack animals, requiring
a total tonnage of about 1,000,000 tons, and a space package of about
100,000,000 cubic feet. These would be the minimum requirements.
The actual requirements would be much greater, since the standard develop-
ment of countries has led to the construction of considerable
roads and other means of transport, electric lights, etc., etc.
This increased facilities for transportation exist also
even for landing on a beach.
But no action has at the moment at any given mo-
ment sufficient tonnage to transport 10,000 men.
General Sherman said in his report of 1862: "I think
for our ocean commerce and our sea-board cities, I do not
think we should be much alarmed about the probability of
war with foreign powers, since it would require more than
a million and a half of men to make a campaign against us.
To transport beyond the ocean that number of soldiers, with
all their equipment of war, their cavalry, artillery, and
infantry, even if not equipped by us with the same, would
demand a larger part of the shipping of all Europe.
The only way to transport such a force would be to
include arms, ammunition, mules, vehicles for pack animals, and
supply trains and supplies of food and forage:



Allow in net tons:

| | per man | per horse |
|-------------------|---------|-----------|
| For a few hours | 1 | 2 1/2 |
| For a week | 2 | 6 # |
| For a long voyage | 2 1/2 | 7 # # |

Ability to protect one's transports is of course indispensable and it would seem easy to interfere with and to molest them, yet descents have been ~~made~~ successfully executed in opposition to naval preponderance. In 1796 the French landed in Ireland in 44 vessels in 8 days through a triple line of English ships without loss. In 1798 Napoleon evaded Nelson's fleet in the Mediterranean etc.

Where there is considerable extent of beach there seems to be no reason why the invader should not steer for it and, favored by weather, land without opposition. The guarding of a coast at every point requires a more extensive system of lookouts, signals and coast guards than it is easy to furnish, or that exist, at least in this country.

However, an army debarking beyond the sea, must place itself where it may soon get provisions, place its transports in safety and maintain communication with home; and all this necessitates the speedy occupation of a sea-port. Still it is unwise to say, in military matters, what can or cannot be done, given favorable circumstances and an intrepid and enterprising genius in command.

Includes 30 days' provisions and forage.

Includes 90 days' provisions and forage.

Allow in net tons:

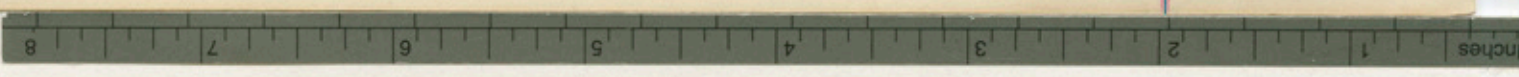
| For a few hours | For a week | For a long voyage |
|-----------------|------------|-------------------|
| 1 | 2 | 3 1/2 |
| 2 1/2 | 3 | 7 1/2 |

...ability to resist the...
...and it would seem that...
...to molest them, yet...
...executed in opposition to...
...French landed in...
...a triple line of...
...evaded Nelson's fleet...

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sive system of lookouts, signals and coast works than it is
easy to furnish or that exist in this country.

However, an eye describing beyond the sea, may trace
itself where it may not see protrusions, since the trans-
ports in safety and maintain communication with land; and all
this necessitates the speedy occupation of a sea-port. Still
it is desirable to have a military station, what not or cannot
be done, given favorable circumstances and an intelligent and
enterprising genius in command.

† Includes 50 days' provisions and stores.
†† Includes 90 days' provisions and stores.



Scott disembarked nearly 12000 men on the beach at Vera Cruz, partially protected by a little island as break-water, and landed Worth's division of 4500 men in 65 lighters of 100 men each, by 4 oclock P.M. These advanced simultaneously until they grounded, the men landing waist deep, the lighters returning; by 10 oclock the remaining troops were on shore. The landing of equipage, provisions and ammunition consumed several days. There was no confusion or accident.

(From notes dictated to class, Artillery School.)

Provisional

Hooper by
water

(From notes dictated to class, Artillery School)

... of 100 men each, by 4 color F.M. These advanced single-
nearly until they rounded the bay landing water dead, the
lighter...
on shore. The landing of supplies, provisions and ammuni-
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dent.

