Sir

At your Request I have carefully examined the Rock called the Wholsboat in Portsmouth Harbor, on which a Light-house was erected in 1830, at which place it has been proposed to construct a Breakwater for the protection of said Light house, It is found on examination that the Rock on all sides for 50 to 60 feet is very irregular, but a small part of which is out of water at the very lowest tides, many places in the Rock from one to two feet of water at the lowest tide which would make it very difficult operating on for any purpose of building a solide Structure, and without having the first courses of stone well joined to the Rock but the remainder be ever so well put together the whole would be liable to be destroyed although a considerable part may be in close contact with the Rock still unless the ground joints are so as to exclude the water therefrom though the separation is not more than the thickness of card paper, and capable of Emiting water the action of a wave upon it otherwise would, upon the principles of Hydrostatics produce an equal effort towards lifting it upwards as though it acted immediately on so much area of the bottom as is not in close contact with the rock, If the water is excluded wholey from entering into any part of a mass of Masonry built in water it of course has the whole Atmospheric power on its surface which is equal to fifteen pounds to a superficial inch,

To throw in stone promiscously in rough masses even if their weight be from three to five tons, would be in danger of being removed by the ground swells and force of the Sea, as they must lay upon the uneven and irregular surface of the rock, and may, also be liable to be dashed against the building and have a tendency to batter down the fabric rather than protect it

On examining the present building, and from such information

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as I have been able to gather from such persons as have had opportunities visiting the rock and seen the Light house wherein is building, it appears to have been constructed with art, science, or workmanship, ~~skill~~ ~~the object of those who built it appears to have~~ ~~erected upon a heap of stone that might be called a light house~~,

The base of the building is about forty eight feet diameter and stands on the only part of the rock, that a light house could be well constructed it is about four feet out of water at low tide rocks irregular but might be easily have been leveled, but in stead of which large stones are laid upon the rock and pinned up, with smaller stone and not fitted to the rock at all, some of which are forced out by the action of the sea, the base or Pedistal is ~~about~~ 20 to 22 feet high ~~and~~ constructed of split stone and laid in to the work without any dressing or fitted to each other, they were mad to lay steddy in the work by ~~plans~~ spauls or stone wages or what the workmen call "pinning up" It is well known to practical men that stone laid as they are taken from the quarry will ~~not~~ have a bearing only on three points the pinners or stone wages make the fourth, stone laid laid in this manner stand upon legs like a Table, when those stone wages are rimed the stone has asim a rocking motion as before; there are many place where a good sized cone can be thrust in between the stones, and found there were many small stone answering to the size and description of those pinner or stone wages ~~used~~ as described ~~above~~ heretofore, laying loos and easily moved by a cane; the whole core or inside of the Base was filled in as I understand filled in with loos stone of all shape without any regard to laying them in any regular manner, ~~from such kind of construction building it cannot be otherwise that the~~ of course the whole interior is a loos mass of stone of various shape and sizes, and liable to moved by every wave that ~~is~~ reaches them, and will soon become smooth and rounde as the stone on the beach, ~~the parts of the stone which come in contact~~ or the consequence is a racking motion is produced by the impulse of the sea in heavy gales, which will increase until the whole fabric will

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fall into the sea— I am the more confirmed in this belief by the Statement of Mr Haskell the Light-keeper who says, when he first came there to take charge of the Light, the building then, when struck by the sea had a tremulous motion or Vibration, but within the last two years that a violent, agatation and rocking motion is produced and ~~is so great as perhaps~~ in a Great storm in Jany 1839 it was so great that some of the small stone of the Tower were shaken out and fell upon the floor of the rooms, that articles in the rooms were displaced by the agitation of the Tower,

Considering the rude and frail construction of the present building and uncertainty of upholding of it by any work which can be there ~~now~~ erected, and when it is well known that buildings of this kind and ~~situation~~ many situated, as this Light house have stood for ages as is shewn by the Erection of the Edystone light house off Plymouth England which has stood more than 80 years, the Bell Rock light house built in 1808 or 9 on Eastern coast of Scotland, ~~therefore~~ it is my decided opinion that it is much the safest and in a course of years will be the most economical to take down the present ~~structure~~ and erect in its place a good and substantial buildings that will stand for centuries without requiring repair, I have not made any plan of such a building ~~as I~~ ~~annexed to~~ this ~~report is a plan of the Rock Towers~~, ~~think~~ suitable for the situation, ~~but~~ but will engage to form such a Plan as will without the least doubt stand the force of the sea ~~for~~ ~~as long a light house is wanted~~, ~~and~~ during many ages or as long as light-house are wanted,

Annexed is a plan of the rock,

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1838.

Copy of report of Whale=
Back-Light-House —
Portsmouth Harbor

Boston Feb 9