

## Letter to Joseph B. Braithwaite, 26 January, 7 February 1860

*Livingstone, David, 1813-1873*

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[0001]

River Zambesi 26<sup>th</sup> January 1860.

My Dear Friend

I recieved your welcome letter of March last a few days ago, and thank you for the enclosure of your friend from Leeds. the defects we have unfortunately experienced in the Ma Robert or rather the "Asthmatic" are so numerous that it would require a treatise as long as a lawyer's specification of any simple subject to give you an idea of them, and they have inflicted so much toil that a feeling of sickness comes over me when I advert to them. the only feasible explanation of the conduct of the contractors I can see, is that probably the Zambesi Expedition and the Great Niger Expedition being alike, ~~Will~~ all must either perish or be so ill as to be unable ever to notice any defects. "works which will last a few months will do all - they require". "why waste time on works so soon to perish."

Steel Plate is a failure. this is no fault of the Lairds. It is excessively hard, does not wear at all by friction, but decomposition sets in universally on both surfaces, and ~~hard~~ black scales, strongly magnetic, are formed with surprising rapidity. In twelve months our Funnel, Furnace - Deck & bottom were made like sieves even though the plates were well protected by Peacock's Patent paint. this vessel was formed pretty nearly on the plan proposed by your friend. in

length 75 ft. - coupled below. The coupling below being a bolt which simply slipped into into a hole in another The least wear in the

bolt or hole such as actually took place in the first week, allowed of a pumping action between the compartments and perpetual wet in the cabin was the consequence.

[0002]

One would not blame any one for this either. but the calculation of displacement was according to M<sup>r</sup> Macgregor Laird that she should draw 13 inches only and if loaded up to two feet she could carry from "ten to twelve tons" of cargo. We lately tried her, without water in the boiler or fuel, or crew or provisions or tools, and in salt water she drew 23 inches. She drew 19in. at Liverpool without the house or hatches on - and with her crew a small stock of provisions, and one days fuel on board she draws 31 inches. The water being then only 5 inches from the paddle shafts.

The form - an imitation of Niger canoes - is long narrow & turned up at the ends. this to make her turn quickly! It is followed by the negroes because the trees will not allow greater breadth, and the bent up end allows ~~them~~[canoe] to slide up a bank instead of giving a shock. Here canoes are often made of crooked trees & the craft being bent like the stock from which it is hollowed - some future contractor may spend other people's money in Zambesi canoe shaped vessels as if it were the best adapted for turning round corners.! We drew more water from M<sup>r</sup> Laird following the "Niger canoe form" than your friend's model would do, from so much having been bent up, and have derived no advantage whatever from the use of the steel plate. You have no idea of what our wretched vessel is from the photograph. That is not a photograph of a vessel, but the photograph of a picture. Whoever suspects a photograph of telling lies? No one. You will be able to look on your photograph in a new light I discovered before I left Liverpool. This form of vessel is most unmanagable for if she touches at all it is on the middle compartment she rests and she goes round on a pivot rather than move off, unless she has way on her we cannot turn but by a long circuit

[0003]

The engine was beyond doubt made for some other purpose. M<sup>r</sup> Laird denies this, but his own foreman stated this to be the case. [to M<sup>r</sup> Rae, our engineer]. The cylinder is a low pressure one applied to a high pressure engine This large recess shews what is stated. the

supply pipe is considerably smaller than the feed pipe, and the valves of the pump being of India rubber are perpetually going wrong.

When she was tried at Liverpool two men were employed constantly working the pump. The boiler tubes are much too few and situated all at one side, and chiefly below the level of the fire. The draught being insufficient to clear them, ashes fall [back] from the furnace, and choke the half of the tubes after a few hours steaming - until the steam is generated from one side the other remains cool. the hand may be held in the water from right hand cock while the other will scald. the bridge made of bricks is a continual nuisance by breaking down and with the best wood on the river - Lignum vitae dried, we cannot move up the river so fast as a man can walk. A ton of this fuel will not give 7 hours steam. We tried a ton of ebony this week and it did not give five hours, our speed being scarcely a mile an hour against a three knot current. It is heart breaking work I assure you. We spend far more time in wood cutting than steaming Nor can she tow. We were obliged to leave our pinnacle at Senna a few days ago because she held her back so much. Yet we were promised ten or rather over ten knots.  
[0004]

So long as we had coals we did pretty well but no sooner did the Pearl leave than I saw that we had been victimized. With common wood we could not carry food for our crew. Any canoe beats us unless we are going down stream. No one will ever believe the toil we have been put to in wood cutting. the quantity consumed is enormous & we cannot get sufficient for speed into the furnace It was only a dogged determination not to be beaten that carried me through. Of late we have been spending precious time tinkering which might have been employed in doing good service to the cause of civilization in Africa. But all will come out right at last. We are not alone. though truly we deserve not His Presence he encourages the trust that it is granted by the word. I am with you always even unto the end of the world.

I have thus mentioned some of the defects of our wretched punt. Unfortunately a mail bag was lost on the bar off Kongone lately & we dont know whether we are to get a vessel in lieu of that which Bedingfeld for his own

ends got me to reject. But I wrote to my friend James Young of Glasgow to get me another out of my own money if £2000 will do it. We want one for the Lake region. that is the slave market and the prospect seems fair of cutting out a large portion of the supply from the slave ports on the East coast by the introduction of the gospel and lawful commerce on Nyassa. I think the object a worthy one to employ the money which Providence lately put into my power. I do not touch on that funded for my family. We want one which will be capable of being unscrewed into pieces of say 500 lbs each  
[0005]

Steel plate will not do. We send home M<sup>r</sup> Rae who well knows all our wants and what would be suitable. M<sup>r</sup> Tod of Glasgow has been thought of for making the vessel proposed. We require strength - little draught of water & power equal at least to the heavy lumbering canoes of this river. A condensing engine of forty horse at least, with furnaces proper for burning wood. We think M<sup>r</sup> Rae will be able to see that we get the proper thing. if the Government grants the means for one boat it will be a help for we require to establish a communication with the Cape  
It is impossible for you to concieve how backward every thing is here. and the Portuguese are not to be depended on. their establishments are only small penal settlements, and as no women are sent out the state of morals is frightful. The worst disease universal either hereditary or acquired. the only chance of success is away from them. Nothing would prosper in their vicinity.  
Baines our artist was left at Tette in order to spare him exposure to malaria and he fell before the moral atmosphere of the place - was dishonest - - diseased &c and we were obliged to send him away. Very likely he may turn round & blame me though he begged to be allowed to remain without salary before I had spoken a word about his conduct. Bedingfeld tried all he could to incite the Portuguese against the Expedition as soon as he returned, and even wrote letters to the Boletim of Mozambique to damage us - This may appear odd to our friends at home as they have no idea how often the same things happen even among missionaries. M<sup>r</sup> Moffat brought two young men with him from England. One did nothing for four

years, and after spending a good deal of money was sent off to Canada. the other sat down in a [0006]

comfortable house & garden and not even the Directors could dislodge him till lately. After all I have seen I am convinced that were Christianity not Divine it would be trampled out by its propagators. Among Portuguese Baines' example will do no harm, for they are the lowest of the low. I tried to give him the benefit of a doubt as to his sanity but it would not do. All the rest i.e. D<sup>r</sup> Kirk, M<sup>r</sup> C. Livingstone & M<sup>r</sup> Rae with 2 English sailors do well. I do not remember whether I mentioned that Thornton the geologist failed. An entire want of energy set in after our arrival. I tried him for eight months - talking seriously to him & warning him that should his inactivity ~~prev~~ continue I must stop his pay. D<sup>r</sup> Kirk & M<sup>r</sup> C. L. did the same. We could not get him to work. In eight months he did not accomplish 8 days geology. His salary ran on at about £1 per day. This money is supposed to be spent by me, so I had to cut him off. He then went away with a half caste trader towards Zumbo, and if he works now it is more than he would do while with us. He belongs I believe to Bradford in Yorkshire.

we are now on our way up the river to the Makalolo country, but must go overland from Kebrabasa or in a whaler. We should be better able to plan our course had our letters not been lost. We have never been idle and do not mean to be.

We have been trying to get the Portuguese Government to acknowledge free trade on this river. and but for long delay in our letters - the negotiation might have been far advanced I hope Lord John Russell will help in this matter and then we must have a small colony or missionary & mercantile settlement If this our desire is granted

[0007]

it is probable we shall have no cause to lament our long toil & detention here. My wife's letters too were lost so I dont know how or where she is.

Our separation and the work I have been engaged in were not contemplated but they have led to our opening a path into the fine cotton field in the North. you will see that the discoveries of Burton & Speke confirm mine respecting the form of the continent and its fertility. It is an immense field. I crave the honour of establishing a focus of christianity in it, but should it not be granted will submit as most

unworthy. I have written M<sup>r</sup> Venn twice  
and from yours I see something is con-  
templated in Cambridge. You did not send  
a copy of the lectures there because you thought others  
would do it. We always believe that [to be a] great law of  
nature "What everyone is likely to do no [one] does", and  
get a laugh in finding each of our friends saying  
some one is sure to send you so & so. I did not  
expect a volume from the lectures but thought  
that M<sup>r</sup> Murray would issue a cheap edition.  
If it does good its all right. If young men come  
to this country they must lay their account  
with doing every thing for themselves. they  
must not expect to find influence at once  
and all the countries near to the Portuguese  
have been greatly depopulated. We are now  
ascending this river without vegetables  
and living on salt beef & pork. Slave trade has  
done its work for formerly all kinds of pro-  
visions could be procured at every point &  
at the cheapest rate. We cannot get anything  
for either love or money in a country the  
fertility of which is truly astonishing  
[0008]

As a finish to the subject of this vessel I give the notes  
of the brothers Laird " Hamilton Square

Jan<sup>y</sup> 16 /58

D<sup>r</sup> Livingstone's launch will more  
probably exceed the ten knots than fall  
short of it when kept in proper trim.  
She appears admirably adapted for what  
she was proposed for, the Upper Zambesi  
above "Tete" If she is heavily laden  
with stores her speed will of course  
be diminished as her draught of  
water is increased. As they are putting  
the engine together it is impossible  
to alter the power - even if desirable,  
which it is not.

xxxx xxxx x

(on another subject - the Niger)  
D<sup>r</sup> Livingstone may calculate  
on one ton for every inch Depth  
in the Launch, and as in the  
River he may safely load her

to 2 ft from ten to twelve tons  
will be available for stores and  
crew. As to space the plan sent  
up shews accurately the Room

x xxxxx

Macgregor Laird

4 Jan<sup>y</sup> 1859

It was with feelings of  
surprise & regret that  
I read the extract from  
D<sup>r</sup> Livingstone's letter  
published in the Times  
last Friday & now  
confirmed by yours  
of Saturday.

Some of the remarks  
made are calculated to  
mislead the public & one  
is positively untrue.

In meeting these  
objections it is well  
to remember that the  
Launch was designed  
to perform a particular  
service, which was to  
act as a dispatch or  
expeditionary craft  
carrying but few  
people and little luggage  
that her draught of  
water was to be 12 to 14  
inches and not to exceed  
18 inches

After trying to prove that the failure was owing to  
her being loaded up to 2 ft 6, he adds, there is  
however one statement ~~which I must deny~~ about the  
cylinder being an old one originally cast for a low pressure  
engine, which I must deny. and curious enough I made  
a pair of engines from the same pattern for a yacht  
I built for the Duke of Leeds which have given the  
greatest satisfaction during the whole season. It is  
signed John Laird. Ours is a low pressure  
cylinder notwithstanding, and "Ten to Twelve tons" of people

are not "a few" nor is a mile an hour great dispatch

David Livingstone