

A Critical Assessment of the Oral Condition of the Crew of the Franklin Expedition

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APPENDIX 1

TABLE S1. Initial searches to define search terms.

Database	Franklin expedition searches	Original searches
PubMed	12	284
Embase	11	362
Total after eliminating duplicates	14	476

TABLE S2. First and second phases of the literature search.

First phase of literature search:		
Citation database	Citations re: Franklin expedition	Citations re: oral condition
PubMed	franklin[tiab] AND expedition[tiab]	
Embase.com	(franklin AND expedition):ab,ti	'tooth discoloration'/exp AND (dark*:ab,ti OR black*:ab,ti) OR ((dark* OR black*) NEAR/4 (teeth OR tooth OR stain*)):ab,ti AND ('etiolog'/exp OR 'risk factor'/exp OR 'lead poisoning'/exp OR 'scurvy'/exp OR 'dental caries'/exp OR 'coffee'/exp OR 'tea'/exp OR 'tobacco'/exp OR risk:ab,ti OR etiolog*:ti OR caus*:ti OR 'lead line':ab,ti OR plumbism:ab,ti OR scurvy:ab,ti OR caries:ab,ti OR coffee:ab,ti OR tea:ab,ti OR tobacco:ab,ti) AND [english]/lim
Ovid MEDLINE		<ol style="list-style-type: none"> exp tooth discoloration/ and (black* or dark*).ti,ab. ((black* or dark*) adj5 (teeth or tooth or stain*)):ti,ab or/1-2 exp causality/ or exp lead poisoning/ or exp tea/ or exp coffee/ or exp scurvy/ or exp dental caries/ or exp tobacco/ or et.fs. (etiolog* or caus*).ti. or (risk* or lead line* or plumbism or scurvy or caries or coffee* or tea* or tobacco*).ti,ab or/4-5 and/3,6 limit 7 to english
Second phase of literature search:		
Citation database	Citations re: Oral condition	
Embase.com	<ol style="list-style-type: none"> 'tooth discoloration'/exp OR 'mouth'/exp AND (black*:ab,ti OR dark*:ab,ti OR stain*:ab,ti) ((mouth OR oral OR teeth OR tooth OR dentit*) NEAR/4 (black* OR hard* OR dry OR stain*)):ab,ti #1 OR #2 [Possible Cause (a-h)] <ol style="list-style-type: none"> 'starvation'/exp OR starvation*:ab,ti 'scurvy'/exp OR scur*:ab,ti 'lead'/exp OR 'lead poisoning'/exp OR lead:ti 'dental caries'/exp OR caries:ab,ti OR carious:ab,ti OR cavities:ab,ti 'botulism'/exp OR botul*:ab,ti 'tea'/exp OR 'coffee'/exp OR tea:ab,ti OR coffee:ab,ti 'tobacco'/exp OR tobacco:ab,ti 'tuberculosis'/exp OR tubercul*:ab,ti 'addison disease'/exp OR ((addison* OR adrenal OR adrenocortical) NEAR/3 (disease* OR insufficienc*)):ab,ti OR hypoadrenalism*:ab,ti #3 AND #4 AND [english]/lim 	

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TABLE S2. First and second phases of the literature search – *continued*:

Second phase of literature search:	
Citation database	Citations re: Oral condition
Ovid MEDLINE	<ol style="list-style-type: none"> 1. (exp tooth discoloration/ or exp *mouth/) and (black* or dark* or stain*).tw 2. ((mouth or oral or teeth or tooth or dentit*) adj4 (black* or hard* or dry or stain*).tw 3. or/1-2 4. exp starvation/ or starvation.tw 5. (and/3-4) and english.la 6. exp scurvy/ or scur*.tw 7. (and/3,6) and english.la 8. exp lead/ or exp lead poisoning/ or lead.ti 9. and/3,8) and english.la 10. exp dental caries/ or (caries or cavities or carious).tw 11. ((and/3,10) and english.la.) not (antibiotic* or trauma* or composite* or chlorhexidine or bleach* or whiten* or fluoride*).tw 12. exp botulism/ or botul*.tw 13. (and/3,12) and english.la 14. exp tobacco/ or exp tobacco products/ or tobacco.tw 15. (and/3,14) and english.la 16. exp tea/ or exp coffee/ or (tea or coffee).tw 17. ((and/3,16) and english.la.) not (antibiotic* or trauma* or composite* or chlorhexidine or bleach* or whiten* or fluoride*).tw 18. exp tuberculosis/ or (tuberculos* or koch* disease*).tw 19. (and/3,18) and english.la 20. exp addison disease/ or ((addison* or adrenal or adrenocortical) adj3 (disease* or insufficienc*).tw or hypoadrenalism*.tw 21. (and/3,20) and english.la

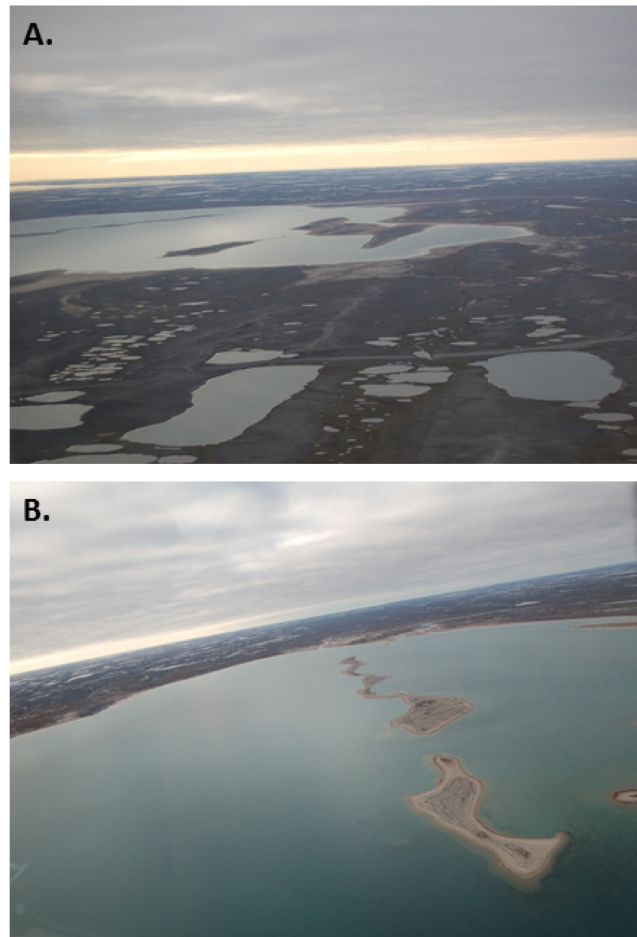


FIG. S1. Washington Bay, site of the Franklin crew/Inuit encounter, photographed from ~183 m (~600 feet) above sea level on 8 August 2015. (A) Direction of photograph is the head of the bay from the southeast looking northwest. (B) Direction of the photograph is from the south looking north.

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(five) stayed in the boat and the other half in a small tent on the land. They did not have anything to eat. The Inuit men sought several seal chopping knives. They started together eastward but ~~as~~ the ice ^{was} very rotten the Inuits hurried on as they were afraid of not getting across on the mainland before it broke up. They did not get to Gladman Pt in time to cross and had to remain on King William Sound during that summer having first waited for five days at Gladman Pt for the white men who not coming they moved on toward Booth Pt. This was the last she saw of the white men alive. They looked thin and worn out and their mouths were very dry bleeding & black. They were all wearing white men's clothing, and had no sort of reindeer or other kind of fur dress. There were two white chiefs Ah-glook-tah and Foo-loo-wing, as near as she could remember their names. The latter was the name of the head man who had given her his band the Chopping Knife. There was one man called Doctook, Foo-loo-wing was a little older than any of the other men and had a large black beard mixed with gray, and was a big broad man. Ah-glook-tah was younger & smaller with a reddish brown beard. Doctook was a corpulent man of low stature with a long red beard. These three officers with the boat had on spectacles (not saving goggles but were white the same as ice). The next time she saw white men were some dead ones in a tent, still standing, at the head of Terror Bay. There were one or two bodies outside the tent lightly covered with sand. They cut into the tent and found a great many bodies there. She could not tell exactly the number but there were more than she could count on her fingers (the limit of Esquimaux computation). There was nothing left but bones, tendons & torn clothes, with the exception of one body that had the flesh on, but whose insides had been taken out. They did not open the graves outside the tent. She was quite with the same party of natives at this time. They found many spears, forks, cups etc etc and quite a number of small books, which she thought were now all destroyed, as none of them were taken except those used by the children for playthings. In the afternoon I bought a sled that had been found in the northern part of Erebus Bay, surmounted by a boat. This is one probably seen by McClintock, or belonging to the boat near by which he overlooked. On the 3d we travelled westward about eight miles as far as the igloos of the Kitchillukis that had visited us last. This village consisted of eight igloos full of people and from them we collected a number of unimportant Franklin relics. On the 4th we travelled to the

men alive. They looked thin and worn out and their mouths were very dry bleeding & black. They were all wearing white men's clothing, and

FIG. S2. Image from Schwatka's journal describing the oral conditions of the Franklin crew in Washington Bay, King William Island, Nunavut. "They looked thin and worn out and their mouths were very dry bleeding & black. They were all wearing white men's clothing." Misc. Vol 163, Manuscripts Collection, G.W. Blunt White Library, Mystic Seaport: The Museum of America and the Sea, Mystic, Connecticut.

Note of, I think, they 1900 The last no gold
 not right by one year - 10 months as well as my...

Pillsbury Bay. It then makes it out
 that the paper found by Mr. Christian
 corresponds with what the fragments
 of this country show. The course of
 the 1st result by counting ^{some} ~~some~~
 a summer & winter as 2 years, one says.
 The 2nd result arrived at without
 the least intimation that the 1st
 calculation was ~~wrong~~. The latter
 result which is positively so.
 by Oo-won & Tut-ke-ta.
 I never got Oo-won & Tut-ke-ta
 till we knew many more in Ay-loo-ka's
 party when they met it. They say they
 cannot tell they were so many.
 One man a very short man
 One man very fat all over - One
 man with a single ~~upper~~ ^{front} tooth gone.

One man a very short man
 One man very fat all over - One
 man with a single ~~upper~~ ^{front} tooth gone.

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upper front with gone
 one man with very ^{some} ~~some~~ bleeding
 bleeding gums - lower gums.
 one man deep-gut
 One man & Tut-ke-ta - he on my
 getting 41 men to hold up their hands
 showing 40 fingers & he should say
 they should think perhaps 5 more
 that is 45 fingers & a ^{more} ~~more~~ would
 surpass it & beat the number
 of hands in Ay-loo-ka's party.
 Six boats in - made for - they took
 they have been found by the Inuits.
 3 of them on the coast of Uok-poo-lik
 made tracks & these 3 thought by Inuits
 to have come from the ship that drifted
 down to Uok-poo-lik that had to do
 Oo-won & one written in the book.

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upper front with gone
 one man with very ^{some} ~~some~~ bleeding
 bleeding gums - lower gums.

FIG. S3. Image from Hall's King William Island traveling journal #28, which describes the oral conditions of the Franklin crew. "One man a very short man. One man very fat all over - one man with a single upper front tooth gone. One man with very large bleeding gums - lower gums." Charles Francis Hall Collection, Archives Center, National Museum of American History, Washington, D.C.