One-half of an earbone of *Balæna* (?) was analysed, and for that purpose the manganese filling the cavity of the bone was scraped out and analysed separately. The white siliceous-looking core gave the following results :—

Insoluble in acid,	0·06	
Moisture,	2·21	
Combined water,	2·22	
Phosphates of iron and alumina,	0·42	
Phosphoric acid,	34·13	= 74·5 per cent. tricalcic phosphate.
Carbonic acid,	6·61	
Fluorine, 1·4 = (F_2 − O),	0·81	
Sulphuric acid,	0·81	
Chlorine,	trace	
Lime,	49·85	
Magnesia,	0·77	
Alkalies and loss,	2·11	
	100·00	

The contents of the cavity gave on analysis the following results :—

Insoluble in acid,	13·66
Total water,	27·00
Manganous oxide,	27·13
Loose oxygen,	3·13
Ferric oxide,	8·34
Lime,	4·34
Magnesia,	4·03
Alumina,	6·54
Silica,	1·31
Phosphoric acid,	2·39
Potash,	1·07
Soda,	2·39
Nickel and copper,	traces
	101·33

The insoluble residue was apparently all amorphous silica. The soluble portion apparently consists of hydrated sesquioxides of manganese and iron and decomposible silicates.

The inner, almost uncoloured, portion of an earbone of *Balænoptera* was used for the following determinations :—

Moisture,	1·60 per cent.	
Combined water,	1·34 „	
Phosphoric acid,	31·21 „	= 68·13 per cent. tricalcic phosphate.
Fluorine,	1·89 „	