



## SIDON GRAIN FROM THE STORE-ROOMS

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DOMINIQUE  
DE MOULINS

This note is about four samples of charred remains taken from a large grain deposit from the Early Bronze Age storeroom during the 2007 Sidon excavations. The charred deposit had been covered with lime plaster. The small samples were scooped out from four different locations in the storeroom. They measured 25 and 50ml. The remains were clean and contained very few debris besides the charred remains themselves. The small samples were examined under a low power microscope and were found to include predominantly the grains of one species of cereal: *Hordeum vulgare* ssp. *distichum*, two-rowed hulled barley. No twisting of the grain was observed and no other cereal species. The sorting of the samples consisted therefore in removing the debris and the other charred seeds. The type and number of these other seeds are shown in the table below. The approximate number of grains present in these samples is also shown in the table. It has been estimated by weighing the remains and calculating the number of grains against the weight of a known number of grains from the samples (roughly 1g. is equivalent to 50 grains in sample 1).

### Sidon storerooms, trench 37

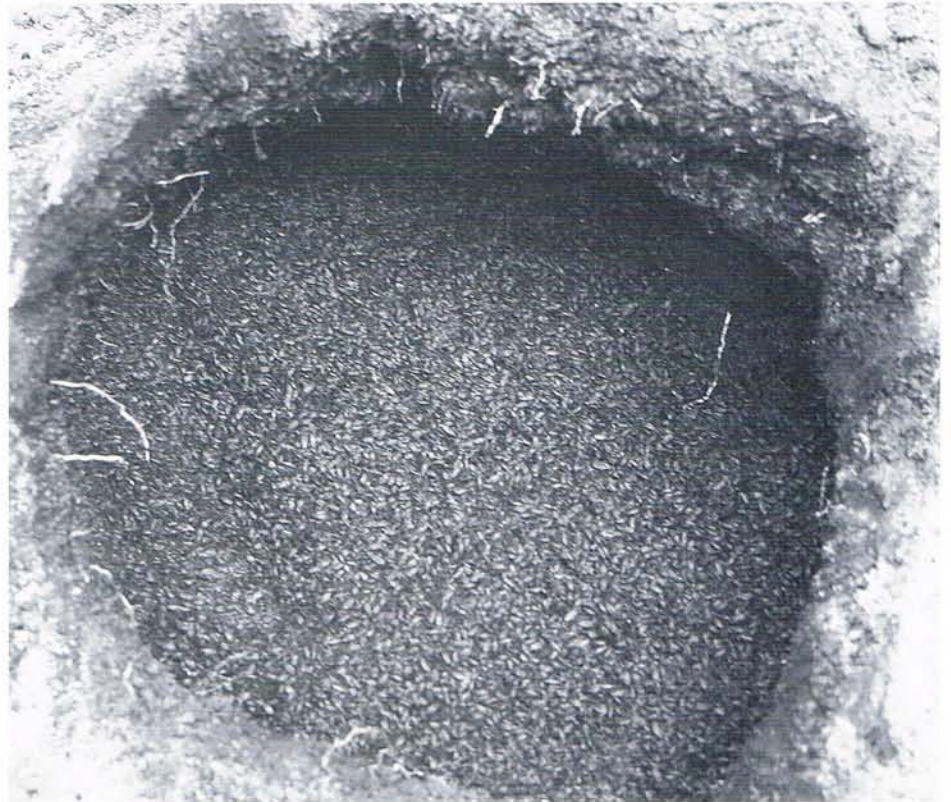
Sample 1 218 – 2176, 25ml		Sample 2 175 – 2136, 50ml		Sample 3 226 – 2185, 25ml		Sample 4 214- 2158, 50ml	
Hordeum sativum ssp distichum	c. 910	Hordeum sativum ssp distichum	c. 1367	Hordeum sativum ssp distichum	c. 1200	Hordeum sativum ssp distichum	c. 1200
Caryophyllaceae	1	Vicia sp.	3	Lens sp.	1.5	Galium spp.	3
Galium sp.	2	Aegilops sp.	2			Lens sp.	2.5
Lens sp.	3	Gramineae indet.	2			Vicia sp.	1
Vicia sp.	6					cf. Lathyrus sp.	1
Vicia/Lathyrus sp.	2					Aegilops sp.	2
Avena/Bromus sp.	1+1cf						
Aegilops sp.	2						



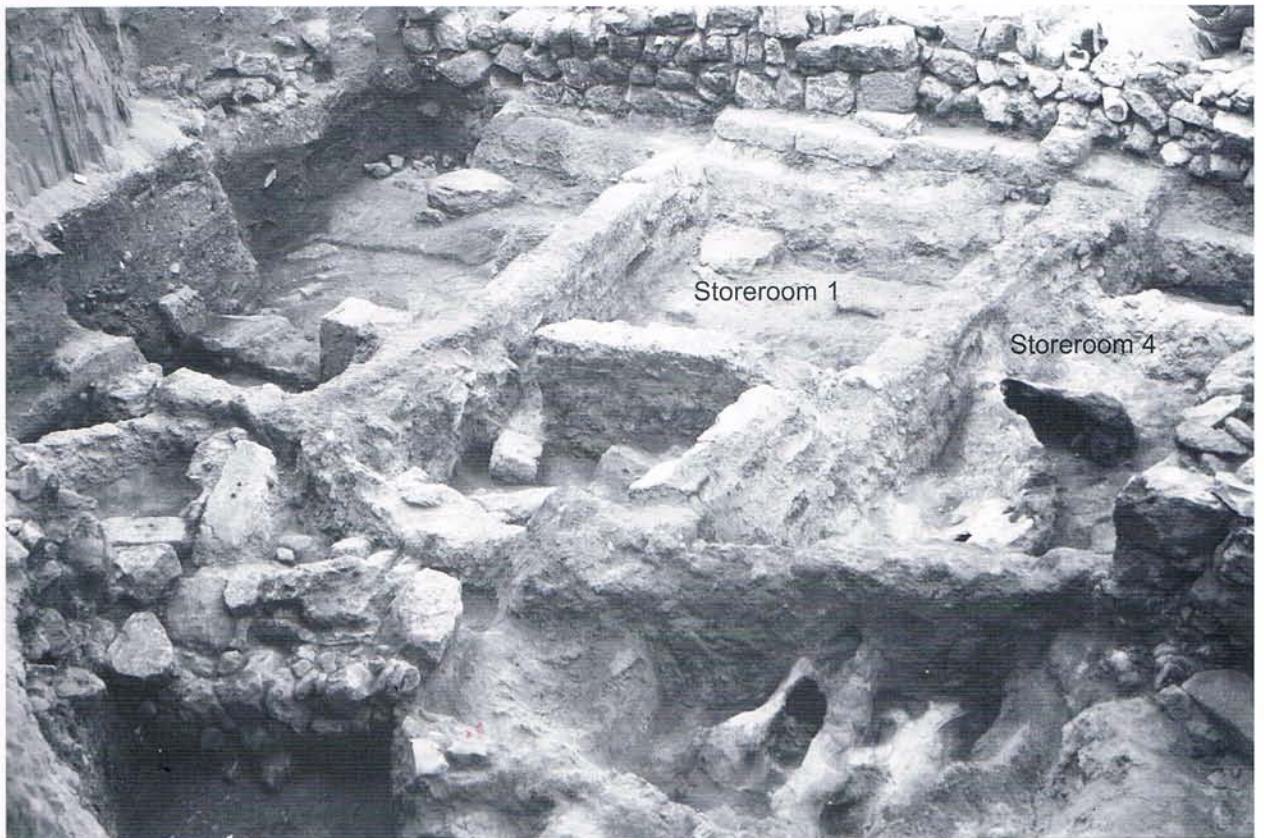
Sidon, Early Bronze Age building and storerooms.

Grains context 2136 in storeroom 1, sample 2.

**Sample 1** consisted of very well preserved charred barley grain and 17 other seeds. There was very little debris and no wood charcoal, no chaff and no other cereal grains. The other seeds were mostly legumes and a few gramineae.

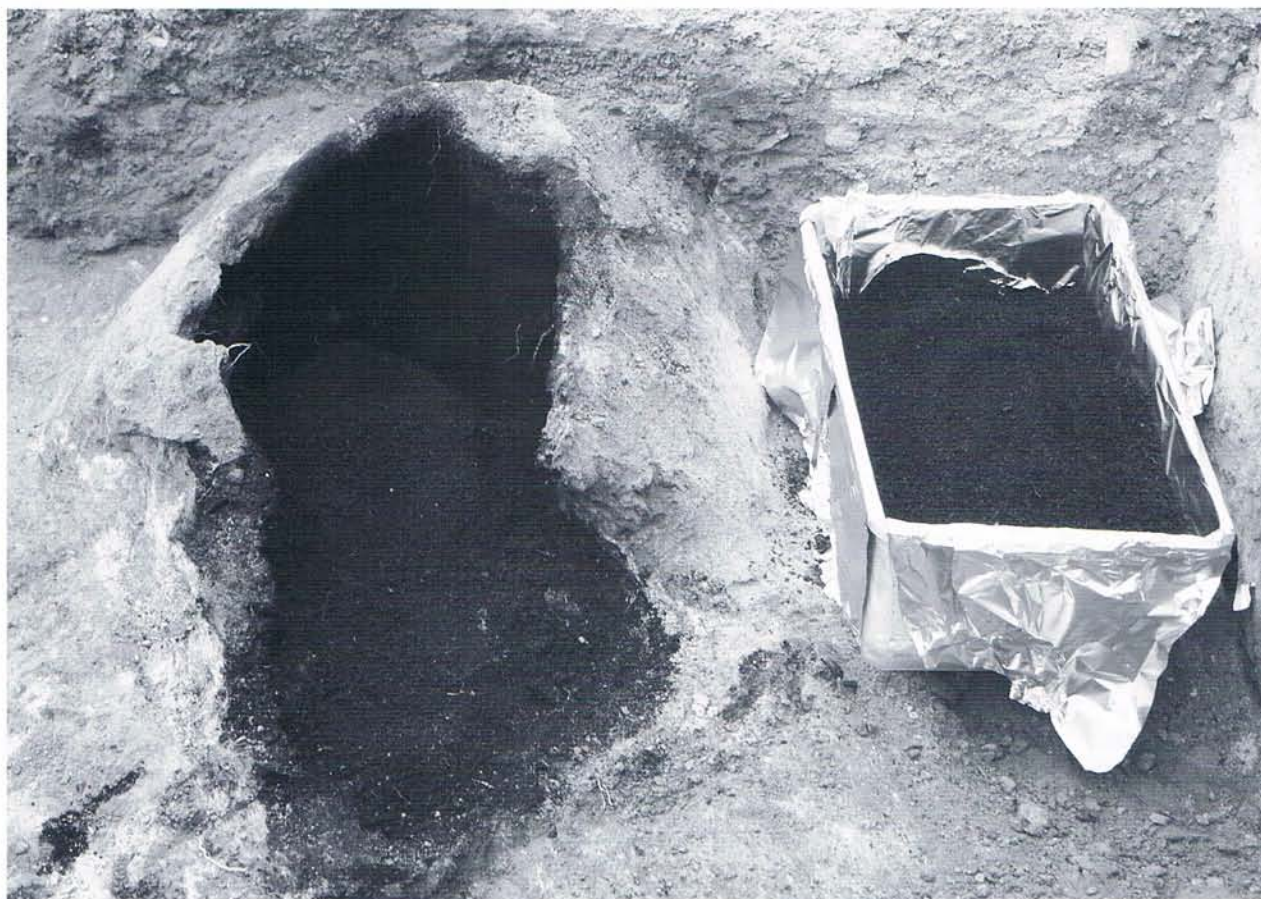


View of the storerooms. On the right grains 2158 in storeroom 4, sample 4.



Storeroom 1, grains  
context 2136, sample  
2.

The composition of **sample 2** was similar to that of sample 1 but the grain was less well preserved. It was more fragmented and there were comparatively fewer whole grains. The grains showed some oozing of oily substance. This indicates that charring must have been more intense in this area. There were very few other seeds presumably because these <sup>14</sup> are more fragile than grain and it confirms the idea that the fire was more intense in the location of sample 2.



**Sample 3** was the worst preserved of the four samples. There were fewer whole grains, more fragments and a lot of oozing. Some plaster was visible on some of the fragments. The composition of the sample is the same as the others, mostly two-rowed barley with only three cotyledons of lentil surviving. The rough calculation of the number of grain from weight indicates that in this small 25ml sample there was as much barley grain represented as in the larger sample 4. This is probably due to the fact that a great number of fragments are compacted whilst whole grains leave space between them. The fire would have been most intense in the location of sample 3 compared to those of the other three.

Storeroom 4 and grains from contexts 2158 (sample 4) and 2176 (sample 1).

**Sample 4** was as well preserved as sample 1 and included a great number of whole and half grains as opposed to the very fragmented nature of sample 3. As in sample 1, there were a few legumes such as lentils.

The four samples therefore come from a store of two-rowed barley 15 which must have burnt in a catastrophic fire. The barley was very uniform and regular both in shape and size (often barley can assume very differ-



ent shapes but not here). Presumably the lime plaster was placed on top of the deposit to quench the fire or to keep down the remains after the fire was extinguished. The barley crop was very clean and had been thoroughly processed before storage. Weed seeds were largely absent except for *Galium sp.* Some species of this genus, cleavers, adhere persistently to any surface. Some of the legumes present would have been for human consumption and some may have been part of animal feed. They may have been mixed with the crop because other food stuff had been stored in the storeroom previously or was stored in the vicinity. The barley itself may have been grown for human consumption especially in the absence of wheat or again for animal feed. However, the thoroughness of the cleaning of the crop and the uniformity of the grains may mean that it was destined for human consumption and possibly traded. The grain may have been intended for beer making but here it was in no way ready for that use, no sprouting at all was observed.