

HEBREW UNION COLLEGE-JEWISH INSTITUTE OF RELIGION

CLIFTON AVENUE, CINCINNATI 20, OHIO

February 19, 1963

Mr. David Gerrish
Tyndale House
Selwyn Gardens
Cambridge, UNITED KINGDOM

Dear Mr. Gerrish:

I have been travelling so much and have been so frantically busy that this is my first opportunity to attempt very briefly and very hurriedly to answer your letter of January 15, 1963.

With regard to whether or not any crucibles were used, I am sending you two enlargements of one particular fragment of pottery with slag coating on the inside of it. They show its outer surface and its inner surface. This is part of a large pottery vessel and can only be part of a crucible. Somehow or other, copper was smelted in this pottery vessel. It is the third sherd from the top down on the left side of Fig. 7 in BASOR 159, Oct. 1960, p.13.

There is a degree of frightening scientific irresponsibility about Rothenberg's article which makes it difficult to deal with.

During the three years that we excavated at Tell el-Kheleifeh, we excavated almost always with our backs to the north so that we wouldn't be blinded by the very frequent sand storms. His reports on the meteorological phenomena are simply not correct. I lived with those sand storms for three years, as did all the members of our staff. I recall Yigael Yadin telling me that he remembered very vividly being in one of those sand storms when he visited in the first or second season of our excavations. Several years after we left the site, the wind blown sands covered up our excavations almost completely.

If Tell el-Kheleifeh were merely a caravansary, there would have been no logical reason for the tremendously strong walls which surrounded it for a large part of its history. Furthermore, it would have made no sense whatsoever to have placed the caravansary in the location of Tell el-Kheleifeh. A caravansary would have made sense only at Aqabah or by the side of Aqabah, where there is a plentitude of fresh water and protection from the winds and the comfort of large, date palm groves.

Tell el-Kheleifeh was also not built primarily as a fortress, because it could not have served major strategic purposes. As I have pointed out in many places, during the Iron Age II especially, and also during the preceding Iron Age I, fortresses were built on high places, on tops of hills, places

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where they could dominate roads and command sources of water. Any enemy force could easily have circumvented the site of Tell el-Kheleifeh and passed within a short distance of it without its garrison being aware of its coming or going. The only reason that the various sites on Tell el-Kheleifeh were enclosed within heavy, strong, formidable, protective walls was that it contained tremendously valuable buildings such as the refinery which had to be protected. I am sure that some time or other a fortress of EI II will be found in the hills immediately overlooking Aqabah.

I have always said there was preliminary roasting at the Arabah mining sites. The pottery found at the mining sites at Tell el-Kheleifeh testifies to the occupation of the Wadi Arabah, as of Tell el-Kheleifeh, from at least the tenth to and through the sixth centuries B.C. I think it correct that the most intensive mining activity took place during the period of Solomon.

Rothenberg was certainly not ignorant of my article in BASOR 159, p.13, in which I speak about the slag incrustation on a piece of pottery, photographs of which I am enclosing for your examination. Somewhere he mentions it and waves it aside!

flues
For him to say that the flues were not flues simply doesn't make any sense. After the excavation of the refinery was completed and the debris had been removed, placing our hands against the flues on the south side of the south wall of the building we could feel the drafts of air which entered on the north side of the north wall of the building, permeated the walls of the building and came out on the south side. No other Iron II building that I am aware of has such a complicated system of flues.

I am not absolutely sure how the refining process was carried out, but the answer may lie along the suggestion that you have in number "2" of your letter under the subject of "flues."

There were some later crosswalls put into the refinery, after the flues had become stopped up.

I think the weakest part of my preliminary report made some 25 years ago, was with regard to the yellowish green stains on the walls. I have never had them chemically examined but will do so at the first opportunity.

at the slag app
Inasmuch as the ores were given a preliminary roasting in the Wadi Arabah, there would have been very little slag left when the crude cupriferous mass was left after the original smelting or roasting was accomplished. The refining at Tell el-Kheleifeh would therefore have resulted in little slag being produced, and such slag as was produced would have been removed and may have been dumped probably into the sea. There was a small quantity of slag found.

slag at En-gle

power
I think it quite possible that Rothenberg has discovered another method in which the copper was given a preliminary roasting in the Wadi Arabah. To deny, however, that the numerous small buildings were used as roasting or smelting ovens and to make all of them graves is to go against all the evidence which has been adduced.

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I am enclosing a copy of an article which I wrote recently for the new Encyclopedia that the Hebrew University is putting out, and this article deals with Tell el-Kheleifeh. Naturally, over the years I have revised many of the conclusions I came to during the first flush of the experiences of the excavations and as a result of other information gained from other excavations.

I am just finishing the first draft of a very large book on my excavations at the Nabataean Temple of Khirbet Tannur in Transjordan, and as soon as that is out of the way, in addition to another volume which will be a rewriting and a combination of "The Other Side of the Jordan" and "The River Jordan," I shall tackle the final publication of my excavations of Tell el-Kheleifeh.

With cordial regards, I am

Sincerely yours,

Nelson Glueck

P.S. The article I am enclosing is for your private information. I prefer that it be not quoted or shown around until it has been published. I don't know you from Adam, but I trust you.

Encls.