The James Ossuary in Talpiot : More about Probability
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April 6, 2015

In this article you estimated that the *a posteriori* probability of the Talpiot tomb being that of the Jesus family is 47%, if we consider Yoseh to be a rare name and 3% if we assume Yoseh to be a variant of Joseph.

In that article you state that if James (Yaakov) is added to the list of names associated with the tomb: "The result is that the *a posteriori* probability of this tomb being that of the Jesus family is increased to 92% if we assign Yoseh to be a rare name and 32% if we assume Yoseh to be a variant of Joseph."

In both of these scenarios you assume that Marya should be included on the list family names as a standard variant of Mariam. However an argument can also be made that Marya should be treated as a less common form of Mariam. This is in fact the assumption that Feuerverger makes in his base case in his 2008 article in Applied Statistics. If the less common form of Marya is added to the list and Yoseh is included as a rare name then the probability rises from 47% to 68%, before we include Yaacov.

What then is the impact of adding James to the list if we have included Marya as a less common form of Mariam. In the case where Yoseh is considered a rare name, the probability is 68% without Yaacov added and it rises to 96% if Yaacov is added. In summary we have in Table 1:

Table 1.

	w/o Yaacov	w/Yaacov
Yoseh as Joseph	3%	32%
Yoseh (rare)	47%	92%
Yoseh (rare) & Marya	68%	96%

We can see that the addition of Yaacov to the list in these three scenarios places the probability that the Talpiot Tomb is the family tomb of the biblical Jesus in a range from a slightly unfavorable 32% to a very favorable 96%.

The James ossuary inscription is the subject of intense debate. Some commentators are willing to concede that the ossuary contains a legitimate inscription that reads "James son of Joseph", while others assert that the full inscription is legitimate and should be read "James son of Joseph brother of Jesus". It is not my purpose to debate this question here.

Common sense suggests that including either of these extended forms of the Yaacov name in the list of family names present in the tomb would drive the probabilities substantially higher. In fact, I would assert that if you assume that one of these two extended forms of the Yaacov name should be added to the list then you probably would not need to even perform a statistical calculation in order to conclude that this is the family tomb of the biblical Jesus.

Still I thought it might be educational to make this calculation anyway. Unfortunately, there is a problem. Given the way this statistical model is structured if we used the name frequencies for either of these extended names for James it would lead to some over counting of the influence of the names Jesus and Joseph. Therefore any calculation that incorporates one of these extended forms of the name Yaacov will be directionally correct, but it would also somewhat overstate the probability that this is the family tomb of the bibilical Jesus.

So with that important caveat in mind we can see what impact both of these readings have on the probabilities, if they were added to the list instead of just a simple Yaacov as shown above.

In the Table 2 below YbY stands for James son of Joseph and YbYaY stands for James son of Joseph brother of Jesus.

Table 2.

	w/o Yaacov	w/Yaacov	w/YbY	w/YbYaY
Yoseh as Yehosef	3%	32%	82%	99.1%
Yoseh rare	47%	92%	99.1%	100%
Yoseh rare & Marya	68%	96%	99.6%	100%

Table 2 shows that if one accepts that the James ossuary should be associated with the Talpiot Tomb and then adds either of the extended forms of the name Yaccov to the family list then in all cases, except for the case where Yose is treated as a standard Yehosef, that the probability that the Talpiot tomb is the family tomb of the biblical Jesus rises to near certainty.

A controversial aspect of the Talpiot Tomb involves how to interpret the Greek inscription that some people associate with Mary Magdalene. Again, it is not my intention to take a side in this argument. I will simple note that it has already been show elsewhere (See Feuerverger, 2008) that adding Mariamene as a rare form of Mariam would drive the probability heavily in the direction of favorability that the Talpiot Tomb is the family tomb of the biblical Jesus.

So what is the relative impact of making any of these name related assumptions. The list below shows the relative impact of making various name assumptions (lowest impact to highest):

1. Marya as a less common form of Mariam
2. Yaacov
3. Yose as a rare form of Yehosef
4. Mariamene as a rare form of Mary appropriate as a name for Mary Magdalene
5. Yaacov son of Yosef
6. Yaacov son of Yosef brother of Jesus

The results shown in this short paper are a way of thinking about the importance that should be assigned to adding various forms of the name Yaacov to the configuration of names associated with the Talpiot tomb. Effectively, this is just an exercise in formalizing the non-statistical conclusions that many readers will have reached on their own when they consider the historical and scientific evidence for including the James ossuary as part of the Talpiot tomb.