Morphological change in cranial shape following the transition to agriculture across western Eurasia

Olivia Cheronet^{a,b*}, John A. Finarelli^{b,c}, Ron Pihnasi^{a,b}

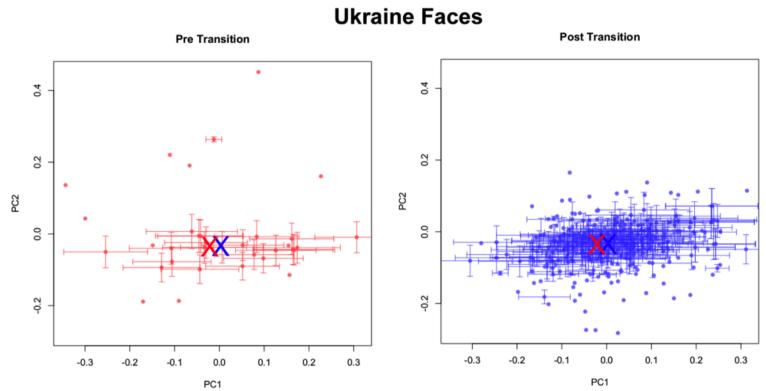
a: School of Archaeology, University College Dublin, Belfield, Dublin 4, Ireland

b: Earth Institute, University College Dublin, Belfield, Dublin 4, Ireland

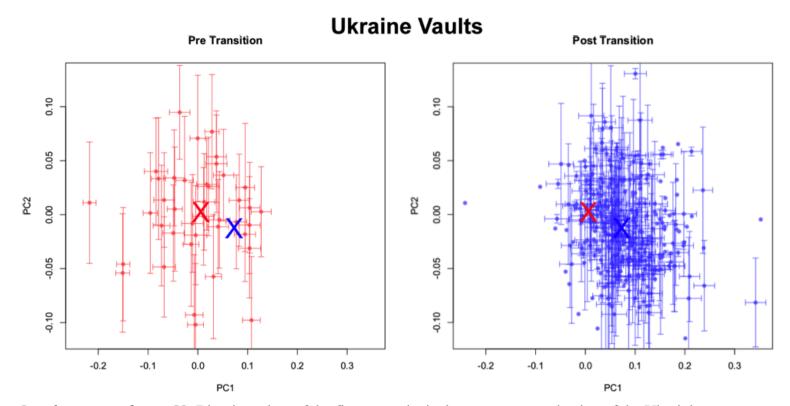
c: School of Biology and Environmental Sciences, University College Dublin, Belfield,

Dublin 4, Ireland

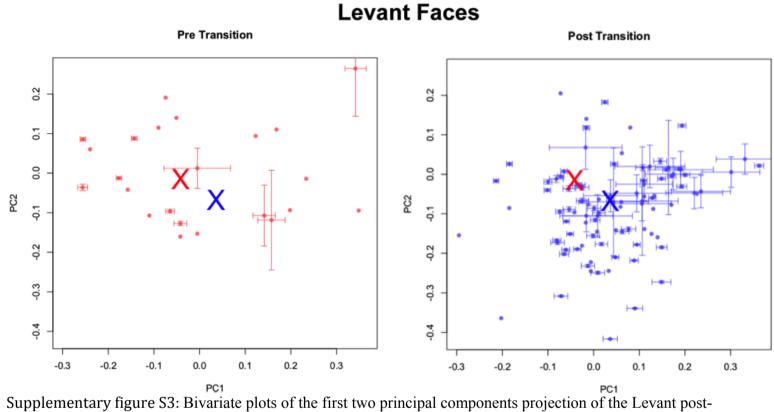
Supplementary figures



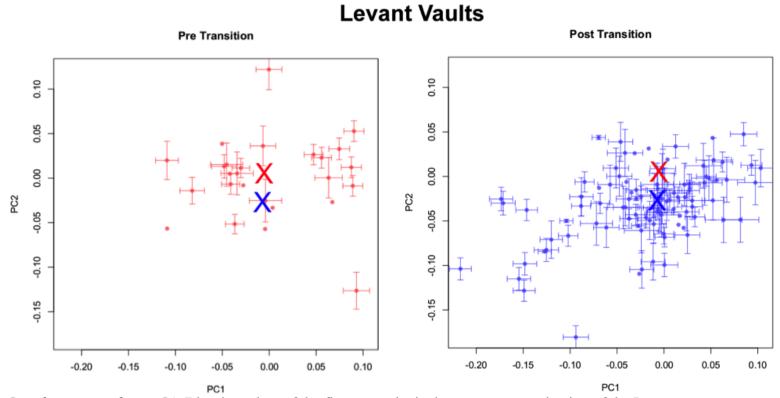
Supplementary figure S1: Bivariate plots of the first two principal components projection of the Ukrainian posttransition faces on a PCA of the Ukrainian pre-transition faces. Blue: distribution of the post-transition group. Red: distribution of the pre-transition group. For both the crosses are the centroids. The errors associated to the pretransition individuals are shown on the left and with the post-transitional groups on the right.



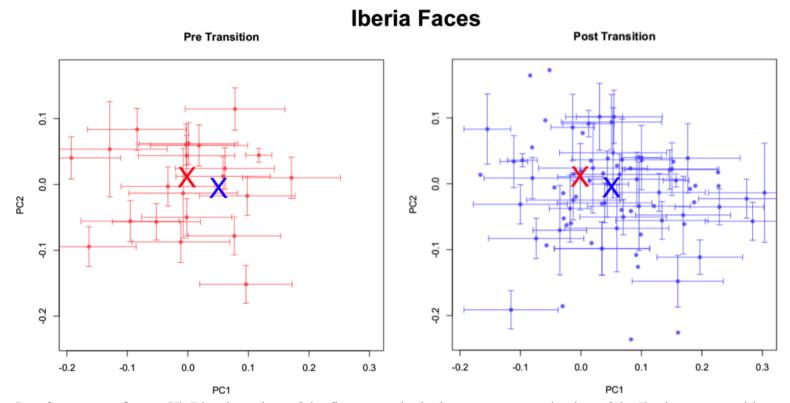
Supplementary figure S2: Bivariate plots of the first two principal components projection of the Ukrainian posttransition vaults on a PCA of the Ukrainian pre-transition faces. Blue: distribution of the post-transition group. Red: distribution of the pre-transition group. For both the crosses are the centroids. The errors associated to the pretransition individuals are shown on the left and with the post-transitional groups on the right.



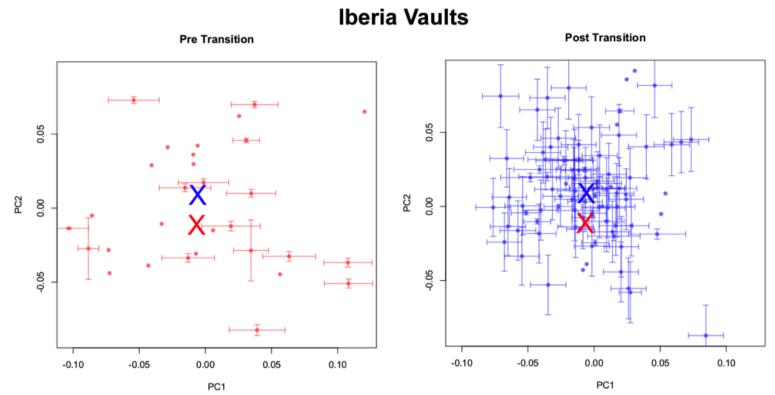
Supplementary figure S3: Bivariate plots of the first two principal components projection of the Levant posttransition faces on a PCA of the Levant pre-transition faces. Blue: distribution of the post-transition group. Red: distribution of the pre-transition group. For both the crosses are the centroids. The errors associated to the pretransition individuals are shown on the left and with the post-transitional groups on the right.



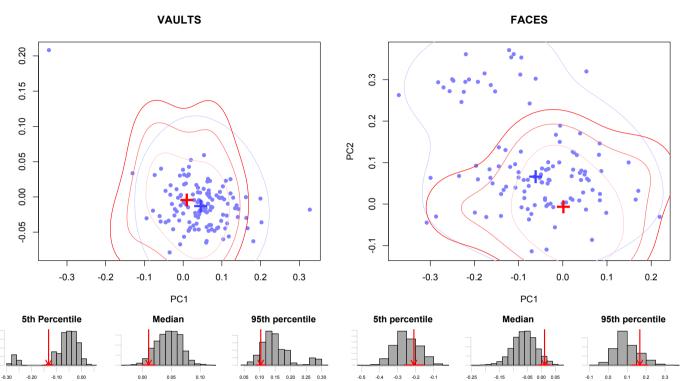
Supplementary figure S4: Bivariate plots of the first two principal components projection of the Levant posttransition vaults on a PCA of the Levant pre-transition vaults. Blue: distribution of the post-transition group. Red: distribution of the pre-transition group. For both the crosses are the centroids. The errors associated to the pretransition individuals are shown on the left and with the post-transitional groups on the right.



Supplementary figure S5: Bivariate plots of the first two principal components projection of the Iberia post-transition faces on a PCA of the Iberian pre-transition faces. Blue: distribution of the post-transition group. Red: distribution of the pre-transition group. For both the crosses are the centroids. The errors associated to the pre-transition individuals are shown on the left and with the post-transitional groups on the right.

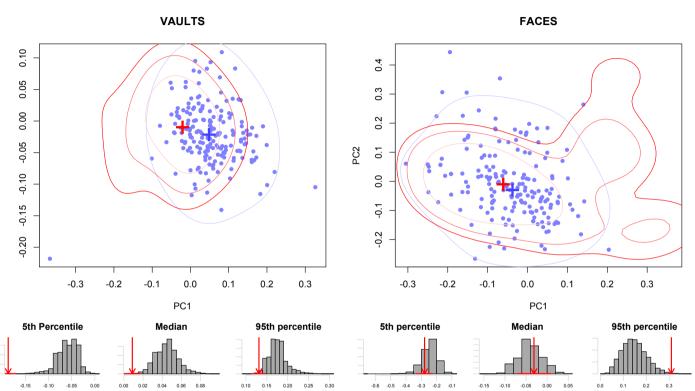


Supplementary figure S6: Bivariate plots of the first two principal components projection of the Iberian posttransition vaults on a PCA of the Iberian pre-transition vaults. Blue: distribution of the post-transition group. Red: distribution of the pre-transition group. For both the crosses are the centroids. The errors associated to the pretransition individuals are shown on the left and with the post-transitional groups on the right.



Projection post-transition on pre-transition PCA UKRAINE FEMALES

Supplementary figure S7: Analysis of Ukrainian females only. Bivariate plots of the first two principal components projection of the post-transition group on a PCA of the pre-transition group (A) Vaults, B) Faces). Blue: distribution of the post-transition. Red: distribution of the pre-transition group. For both groups, the crosses represent the mean shape and contours the distribution of 75% of the data. The histograms below illustrate the differences in pre and post transition groups distributions. For the 2.5 percentile, the mean and the 97.5 percentile, the bars represent the distribution of the larger post-transition resampled to the size of the pre-transition group, and the red arrow the value of the pre-transition group (for which the error associated with the data estimation process is expressed by the red horizontal line).



Projection post-transition on pre-transition PCA UKRAINE MALES

Supplementary figure S8: Analysis of Ukrainian males only. Bivariate plots of the first two principal components projection of the post-transition group on a PCA of the pre-transition group (A) Vaults, B) Faces). Blue: distribution of the post-transition. Red: distribution of the pre-transition group. For both groups, the crosses represent the mean shape and contours the distribution of 75% of the data. The histograms below illustrate the differences in pre and post transition groups distributions. For the 2.5 percentile, the mean and the 97.5 percentile, the bars represent the distribution of the larger post-transition resampled to the size of the pre-transition group, and the red arrow the value of the pre-transition group (for which the error associated with the data estimation process is expressed by the red horizontal line).