

# **Spatial Expanse of the Ancient Hellenic System of Cities**

Appendix to

## **Cities Ancient, Medieval, Modern: An Economics Perspective**

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Figure 1 depicts the sites of Neolithic settlements (that we know of) in the Hellenic world, that is the Mediterranean and the Black Sea regions and the sites of Hellenic poleis. A particular notable finding is that the average distance of Neolithic sites from the nearest sea coast of 31.1 km goes down to 9.973 km for the ancient poleis. So, the Hellenic urban system moved urban activity nearer to the sea; or, put alternatively, urbanization in the Hellenic world is associated with a leap towards the sea. Both pacification and the acquisition of maritime trade technology and skills must have been factors.

In more detail, working with Neolithic sites data we identified Neolithic sites in the vicinity of poleis in our data set and consider those that are: less than 1 km away, between 1-2km away, 2-3km, 3-4km, 4-5km, 5-10km, 10-20km, and 20-50km. In our data set and among poleis with nonmissing size information, about one-third, that is 218 poleis of 636, have Neolithic sites within a 50 km radius from them. Comparison of size, for those poleis that have a Neolithic site within 50 km with those poleis that do not shows that the frequency distributions are quite similar. Regressions roughly along the lines of Size against dummy variables for existence of Neolithic sites over distance intervals 0-1km, 1-2km, 2-3km, 3-4km, 4-5km, 5-10km, 10-20km, and 20-50km yield highly statistically significant and positive results for the dummy variables for the intervals 2-3km, 3-4km, and 4-5km, but the adj- $R^2$  at 0.004 is very small. Therefore, there is some evidence of path dependence from the Neolithic era to the classical Hellenic era. This finding is confirmed when the counts of the number of Neolithic sites in the respective intervals instead of dummies are used, but the adj- $R^2$  barely increases to 0.005. The distance to the coast for Neolithic sites within 5 km of our poleis has a mean value of 31.1 km, with a minimum value of 1.3km and a maximum of

49.8km. It is much less concentrated than the distance to the harbor of the respective polis, which has a mean of 9.9 km.

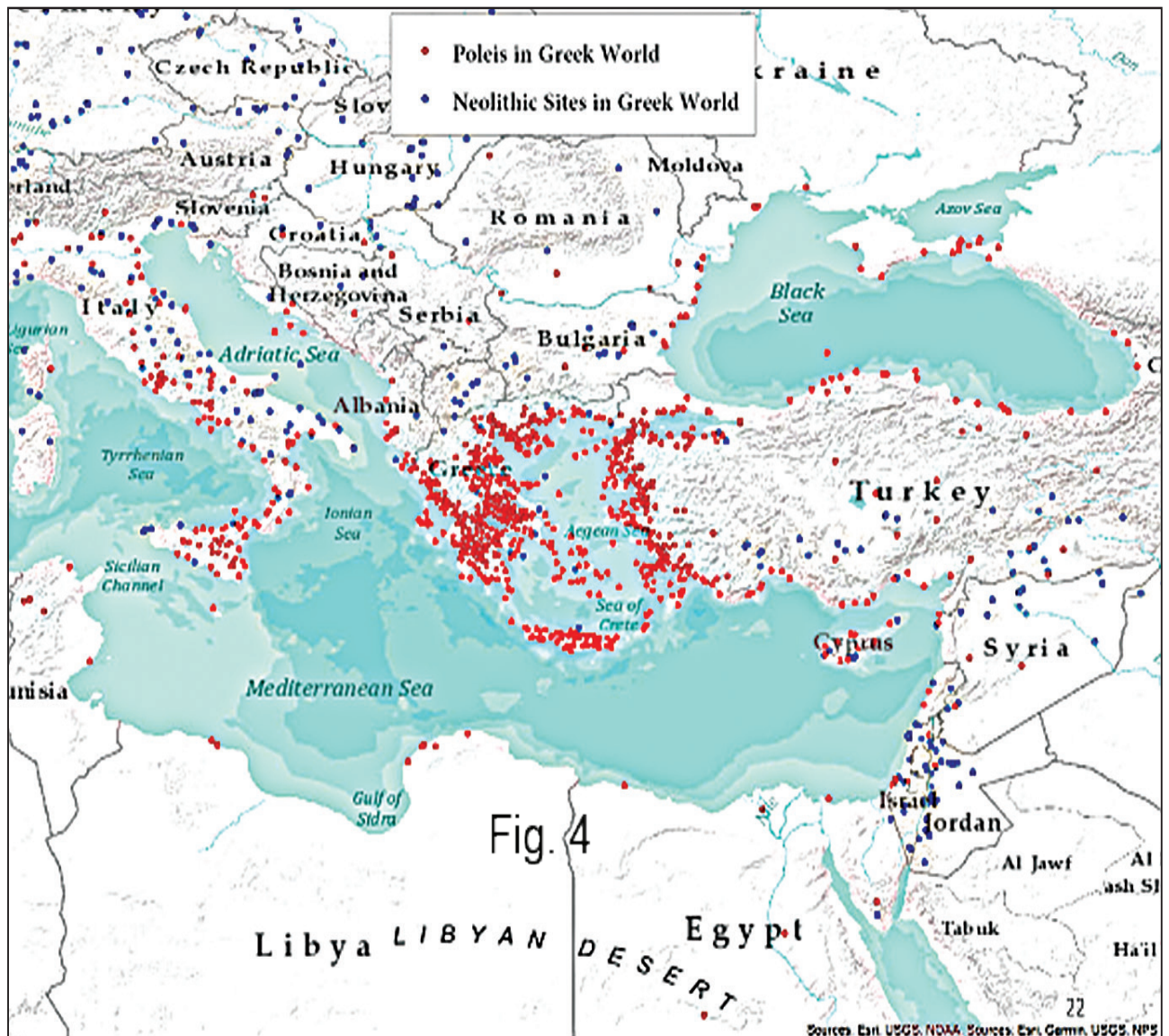


Figure 1: Neolithic Sites and Poleis in Hellenic World