



## Possible projection of the map of Lazarus (1528)

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The strange orientation of the map of Lazarus (1528) has been a subject of a long debate of Hungarian cartographers in the 20th century. In this map, northeast is up, instead of the normal and traditional orientation where the north is up. It was long ago supposed that this orientation is a result of the local/regional usage of the Ptolemaic projection of the world maps of the age of the map construction. If a Ptolemaic conic projection is defined in the GIS environment with the parameters of  $1=0^\circ$ ,  $2=64^\circ$  and  $0=90^\circ$  (from Greenwich), interestingly enough, the map can be rectified and the resulted image has right angles at its corners and all sides are horizontal or vertical in the Ptolemaic coordinate system but not, of course, in the modern ones. The linear rectification errors in this projection are more or less equal to the quadratic ones in fitting to modern coordinate systems eg. to a UTM zone.

It implies that the above projection can be considered at least as a substituting one or even the real projection of the Lazarus map. If we consider this projection as a Ptolemaic one, it can be deduced that Lazarus used the equidistant conic projection with two standard parallels: the Equator and the Northern Circle, which is more or less the same as the mysterious Parallel of Thule in the maps of Ptolemy. In the map, however, the main directions are rotated by  $90^\circ$ ; the grid north points to the original left indicated by the word 'Occidens' (west), which is considered as an error of the press preparation.