

# Georeferencing and Visualization of Italian Migration Data

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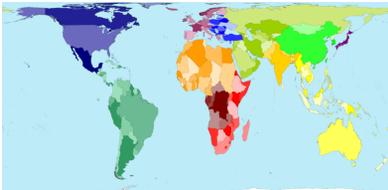
Georeferencing involves processing data in order to render the characteristics of the data geographically on a map. When based on data that traces historical phenomena, the resulting map effectively tells a visual story. For this project, associating Italian migration data to continents was the goal. As the point of departure of a massive emigration between the 19th and 20th centuries and the point of arrival of high flows of immigration today, demographic data concerning Italy's migrations lends itself to a geographical visualization on such a large scale. To better emphasize the differences in the data, three cartographic techniques were used: cartogram, 3D extrusion, and line thickness weighting.

## CARTOGRAM

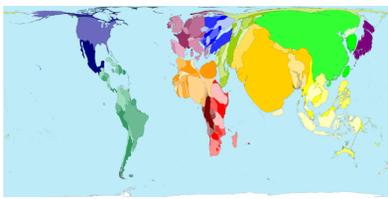
A cartogram is a map in which area is not preserved. Instead, another thematic mapping variable like population is substituted for land area. The geometry or space of the map is distorted in order to convey the information of this alternate variable.

The Italian Emigration cartogram to the right distorts world continents based on emigration data normalized to land area.

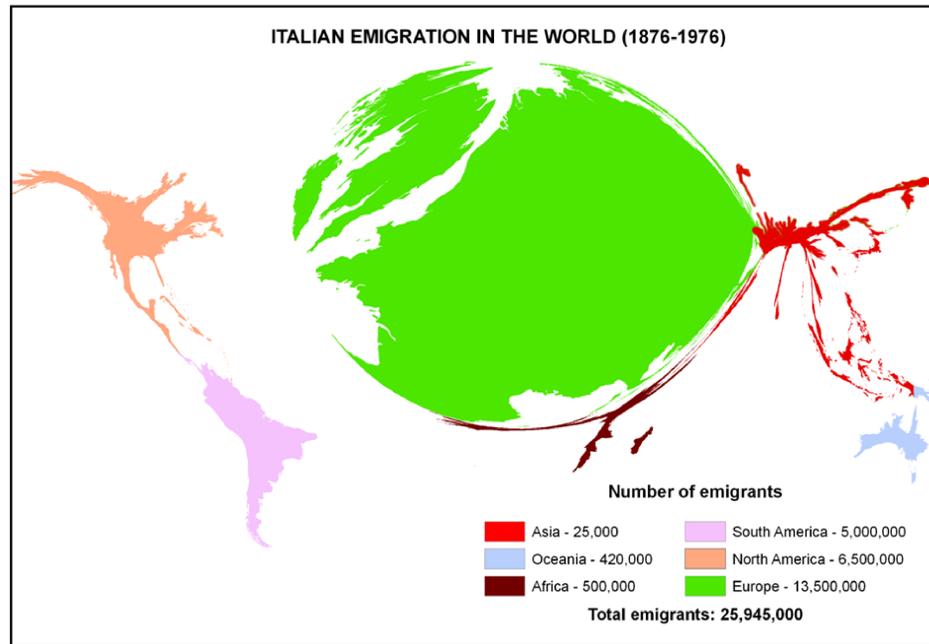
Cartogram examples



Worldmapper Land Area map. Actual land area is depicted.



Worldmapper Total Population Map. Land area is distorted according to country population.



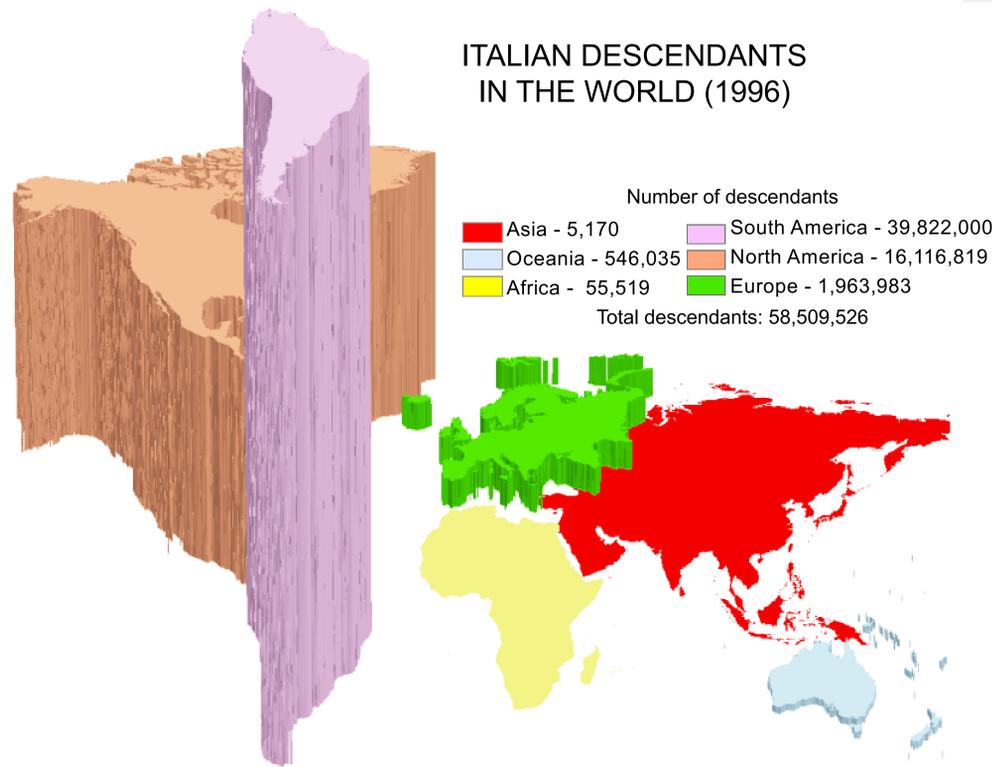
Source: Un secolo di emigrazione italiana, 1876-1976 by Gianfausto Rosoli (1979)

Italy has been the departure point of the largest emigration from any country in recorded world history. The country's demographic "hemorrhage" on a trans-continental plane is visually rendered through this geo-historical representation. The map points to the enormous size of the European flows, due to physical proximity. This result contradicts the usual association of North and South America as primary Italian destinations.

## ITALIAN DESCENDANTS IN THE WORLD (1996)

### 3-D EXTRUSION

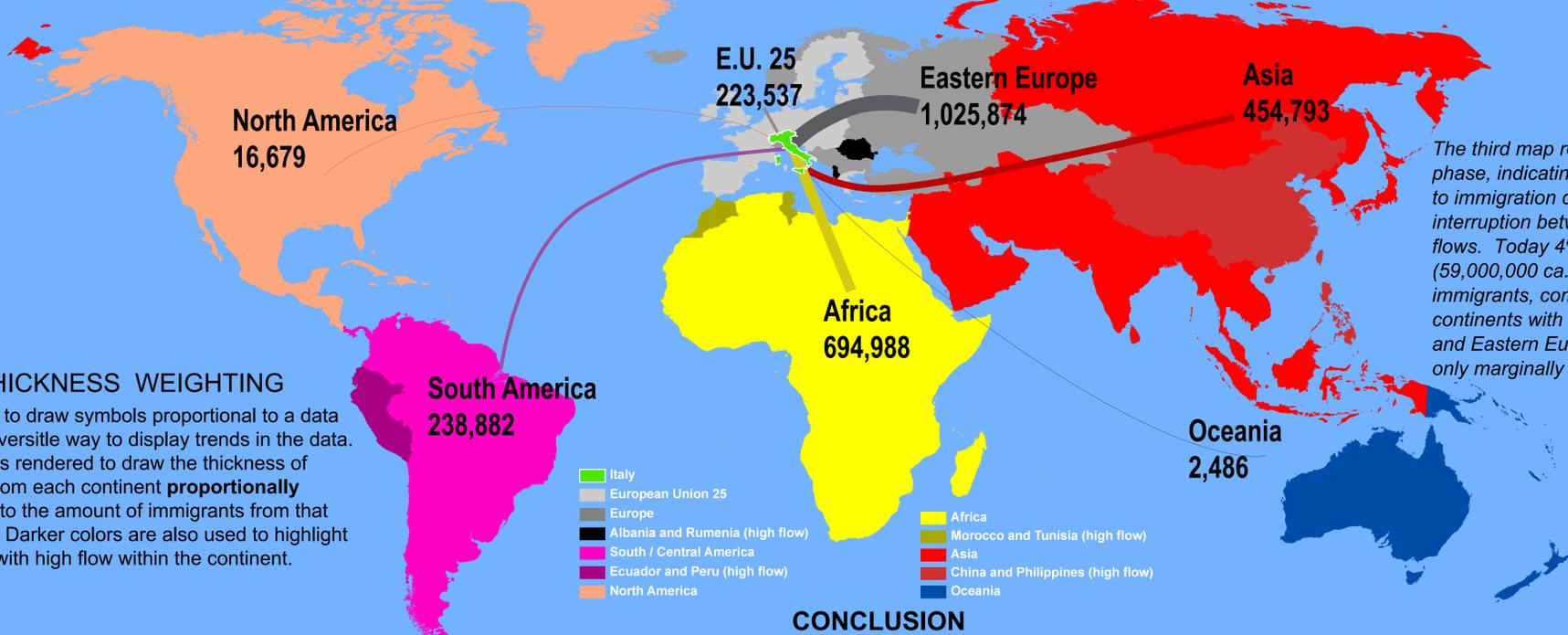
Extruding the height of geographic areas based on a value in the dataset is an effective way to quickly visualize differences in the data. Using this technique on Italian descendant data produces a dramatic visual picture, allowing one to quickly realize the relative proportions of Italian descendants throughout world continents.



Source: Italian Ministry Foreign Affairs/Migrant Press (1994) in Partenze (Donzelli p. 59)

This map focuses on the consequences of the demographic dispersion described above, and interestingly indicates a reversal of trends. While the high European flows were seasonal, the American routes produced more definitive settlements. The combined phenomenon of fast and substantial expansion of families resulted in a dense concentration in South and North America. Italian descendants today are more numerous than Italy's residents.

## IMMIGRANTS IN ITALY (2006)



The third map refers to Italy's post-emigration phase, indicating its transition from emigration to immigration country, practically with no interruption between outbound and inbound flows. Today 4% of the national population (59,000,000 ca.) is made up of documented immigrants, coming practically from all continents with a prevalence of North Africans and Eastern Europeans. Immigration in Italy is only marginally a post-colonial phenomenon.

### LINE THICKNESS WEIGHTING

The ability to draw symbols proportional to a data value is a versatile way to display trends in the data. This map is rendered to draw the thickness of the lines from each continent **proportionally** according to the amount of immigrants from that continent. Darker colors are also used to highlight countries with high flow within the continent.

## CONCLUSION

These geo-referencing and cartographic techniques provide visual evidence of Italy's multiple migratory movements since the post-1861 unification period. In showing that demographic flows from or to Italy are congenial to the country's complex genesis and development to this day, these geo-historical visualizations re-draw the cultural map of Italy as they prompt new reflections on "national" policies, politics, and practices (citizenship, electoral law, tolerance, integration, memory) in a trans-national scenario.