Dead Woman and Dead Man in Italian Place-Names. An Example of GIS Technologies Applied to Toponomastics

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Abstract

It is well-known that metaphoric expressions occur frequently in place-names. Place-names such as Dente del Gigante, Monte Libro Aperto, Mano del Diavolo (The Giant's Tooth, Open Book Mountain, The Devil's Hand) point clearly to geomorphology, and nearly all place-names like Femmina Morta e Uomo Morto (Dead Woman and Dead Man) come from specific relief features.

This research aims to set up and build a database of Italian toponymy comprising all figurative expressions related to relief shapes, and this paper focuses on Dead Woman and Dead Man, putting forward an example of an interactive distribution map that shows the photograph of the named object on the satellite 3D view of the area.

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Part I

It is well-known that since antiquity landforms have appealed to people who have given them a great variety of names. In the 1920s geographer Olinto Marinelli gathered all terminology related to landforms (Marinelli, 1922). He focused particularly on peak names since the highest point is the most interesting, but also stressed the nomenclature of passes for their significance among mountain region peoples.

Marinelli was also interested in peak names related to the orientation of the sun and on the basis of two types of solar quadrant; the ancient and Medieval-Latin system of calculating time as well as the modern one. He also noted the different perception people have of the use of the terms *monte* and *colle*, the former meaning "insignificanti alture" (low reliefs) and the latter "cime anche elevatissime" (very high reliefs). Linguists like Giovan Battista Pellegrini were concerned with other interesting aspects such as metaphoric expressions for relief features, giving numerous examples (Pellegrini, 1990): anthropomorphic (mouth, tooth); zoomorphic (boa); objects (bell-tower, spire, tower, window, gallows, door, cooking-pan, etc.).

On that basis and stimulated by the usefulness of building a database to meet the current demand for cultural asset preservation and valorization, we started researching particular types of metaphoric expressions, for instance "Omo Morto" and "Femmina Morta", frequently to be found in many parts of Italy on the assumption that some of them are inspired by relief forms.

The term *morto*, both the noun and adjective (dead, dead man), is fairly frequent in Italian toponymy (over 1400 times in IGM cartography 1:25000). *Morto* is mostly used as an adjective for numerous classes of objects and phenomena, for example for places where dead humans or animals have been found, or dead or modified sections of riverbeds, ancient landslides, particularly dangerous crests and so forth: "Passo di Prete Morto", "Vallone di Donna Morta", "Poggio del Morto", "Cavallo Morto", "Fiume Morto, "Fosso Po Morto", "Lizza Morta", "Pietramorta", "Cresta Inverzo la Morte", "Monte Uomo Morto, "Canale Coccia di Morto", "Punta s'Omini Mortu", "La Vanga dei Morti", etc.

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Certain landforms viewed from a distance may call to mind human forms and have generated compound place-names which include “morto” or similar terms: “Omo Morto” and “La Bella Addormentata” (Sleeping Beauty) in the Apuan Alps (Tuscany) are typical (FIG. 1).

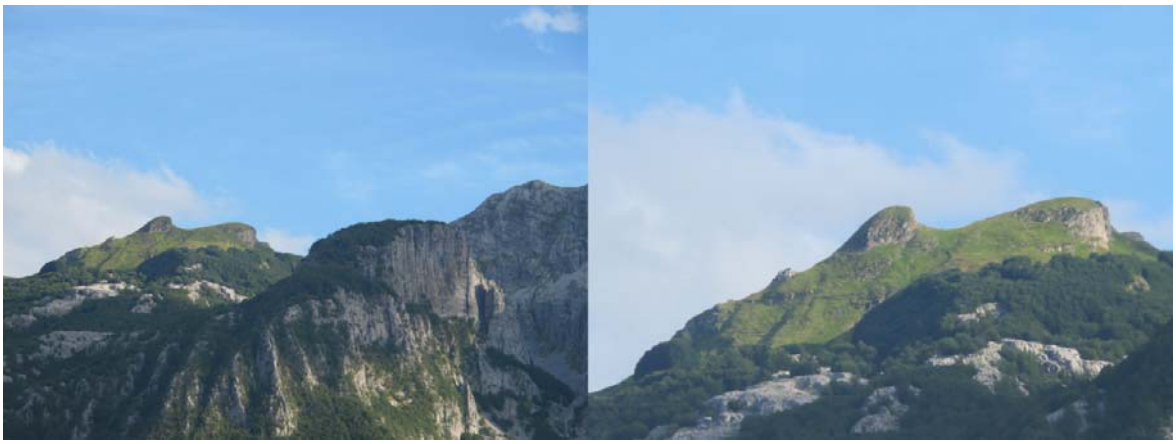

FIG. 1 *Dead Man*, Apuan Alps

Our research started from place-names like these, suggested by relief-shapes which struck the imagination of the local inhabitants, thus reflecting particular aspects of their territory, sketching a sort of portrait. The birth dates of these place-names would also be an interesting topic to study, but in ancient inhabited lands they are almost impossible to determine.

This paper presents an initial study conducted using the large-scale IGM cartography of “Uomo Morto” and “Femmina Morta” place-names, taking into account that for the most part they could be related to reliefs. The distribution map (FIG. 2) suggests that this assumption is correct, since it shows that they are located in areas of the Apennines.

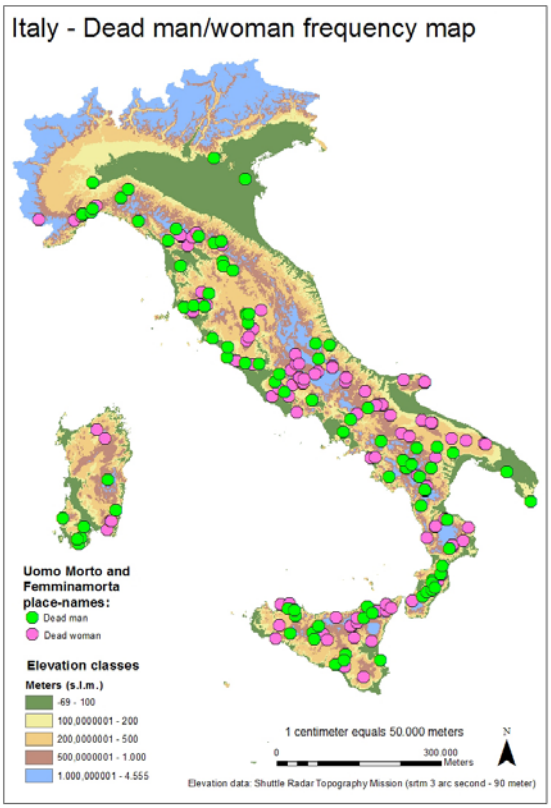

FIG. 2. *Dead Man, Dead Woman* frequency thematic map (from IGM 1:25000 cartography)

On the contrary, Alpine areas (in light blue) are almost free of this type of place-names, perhaps because Alpine relief is less apt to resemble human profiles. Specifically, the absence of "Femmina Morta" place-names could be due to the lack of the term *femmina* in the Alpine region, which is very frequent in Central and Southern Italian dialects.

The toponyms "Omo Morto" and "Femmina Morta" (and the relative variant spellings) occur frequently in Italian toponomastics on large-scale cartography. We are talking about more than 230 occurrences, some linked with real findings of human dead such as "Ponte Omo Morto" and "Scolo Omo Morto" located in the heart of the Padana Plain, and the "Torre Omomorto" (223 II NE), the name given to one of the two watchtowers on the Salento coast near Santa Maria di Leuca, where human bones were found.

The fact that most of our place-names frequently occur in hilly and mountainous Apennine areas should lead us to suppose, as previously noted, that they were inspired by relief forms. Indeed for the most part they refer to sections of land (crests, hilly and mountainous areas and valleys).

Thus in just over one hundred cases of "Femmina Morta" toponyms, 70% of occurrences can be related to specific areas. In this case out of 10 "Valle Femmina Morta" place-names, 4 "Monte Femmina Morta", 3 "Poggio Femmina Morta", 1 "Serra Femmina Morta" (229 I NO), and 1 "Costa Femmina Morta" (97 III NE), 10% refer to groups of houses and 7% to watercourses. It should be noted that certain place-names such as "Bric Femminamorta" (92 IV NE) refer specifically to parts of summits.

"Femmina Morta" prevails in hilly and mountainous regions, particularly in Apulia, Abruzzo, Sicily and Calabria (FIG. 3).

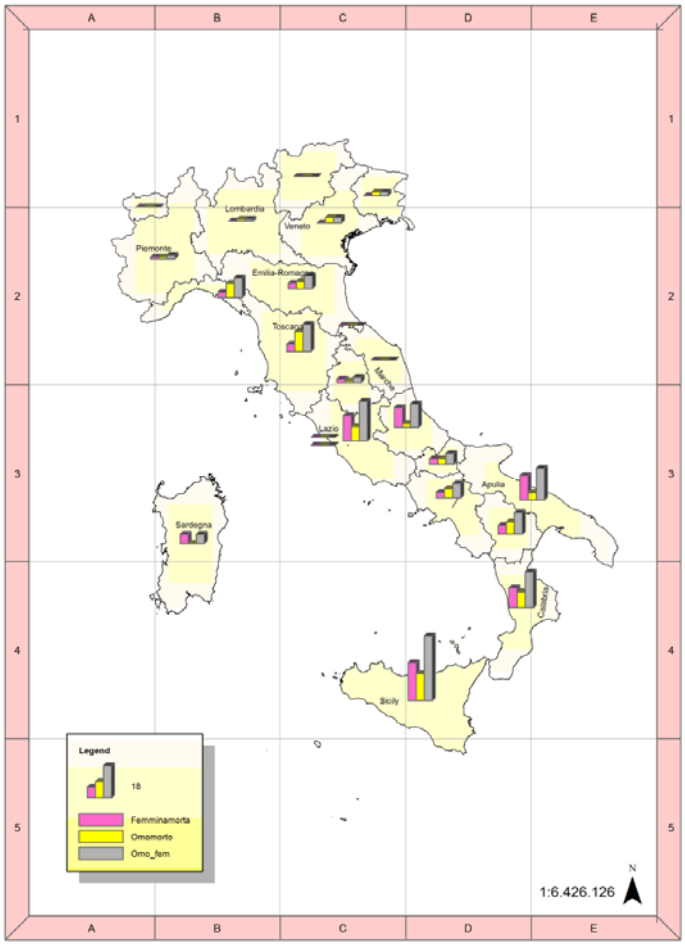

FIG. 3. Place-names frequency map by region (*Dead Man, Dead Woman*)

There are also one hundred “Omo Morto” place-names located chiefly in Tuscany and Liguria, excluding the dialect variants and with the exception of the region of Sardinia. For the latter in fact we have included the Sardinian dialect variants “Omu Mortu”, “Omini Mortu” and “Omo Molt” (“Canale Omo Molt”, an oral Catalan form of “Morto” through rhotacization). In the Molise, Campania, Basilicata, and Emilia-Romagna regions the number of ‘uomini morti’ and ‘femmine morte’ is more balanced.

At the start of this research we limited the database to place-names with the qualifier *morto* accompanying the base term (*uomo / femmina*) and, as mentioned above, restricting it to 1:25000 IGM cartography, given the fact that we believe this choice ample enough to represent this class of place-names. For confirmation, we compared the database *Sistema Informativo Territoriale Regionale della Sardegna* (SITR-IDT) available at the website http://www.sardegnageoportale.it –comprising CTR (the Carta Tecnica Regionale, scale 1:10000) toponyms as well as other sources – with IGM 1:25000 *tavolette* toponyms. The difference between the SITR-IDT and the *tavolette* is minimal: after deleting all repeated place-names (such as the “Femmina morta” area toponym in Bortigiadas municipality where it is repeated in the name of the country lane “Lizzu Femmina Morta” along with “Casa cantoniera Femmina Morta”), the difference is 5 “Femmina Morta” toponyms in SITR-IDT versus 4 in IGM *tavolette*. The 11 “Omu/Omini Mortu” toponymns cited in the SITR-IDT compared with 9 occurrences in IGM *tavolette* establish the high degree of verisimilitude of IGM cartography.

In the first stage of this research we refined our class of place-names database by deleting obvious repetitions, for example a repeated name of a watercourse that flows across different maps, while leaving untouched place-names related to different geographic features but referring to one major place-name. This is the case of a mount toponym extending to other nearby features like “Monte Femmina Morta” and “Contrada Femmina Morta” (261 III NO), or the name of a watercourse across the area where it flows like “Torrente Uomo Morto” and “Contrada Uomo Morto” (262 IV NO) – in certain cases the name applies to as many as four features: “Bric dell’Uomo Morto”, “Casa Uomo Morto”, “L’Uomo Morto” (area name) and “Rio dell’Uomo Morto” (81 II SE). Research into matching place-names originating in the natural morphology has been left for later. Worth noting are metaphorical references to human profiles which, apart from “Uomo Morto” and “Femmina Morta”, occur in names such as “La Bella Addormentata”, “L’Uomo Lungo”, “L’Uomo di Sasso”, “L’Uomo a Cavallo”, “L’Uomo Storto”, etc.

At this stage, initial limited reconnaissance was carried out in Tuscany, Sicily and Sardinia, visiting many places relevant for our research. What emerges is a weighted set of combinations of relationships between oral tradition, human shapes, cartography and visual perception:

1. Place-names and features recognized and mapped (FIG. 1)
2. Place-names recognized by oral tradition but not mapped (FIG. 4)
3. Shapes recalled clearly in oral memory
4. Shapes that are very clear but not recognized by residents (FIG. 5)
5. Place-names mapped but not present in local memory
6. Place-names mapped, not recognized by residents but identified in the field

The last point is mostly interesting in that it puts forward a new issue in our research, which is to balance our findings between that which derives from our imagination and that which could be a loss of historical memory.

Ultimately, the class of our choice of place-names was the source for setting up and building the database described in the next section. Though we are aware that similar sets are

not conceptually new, it is possible to improve the use of this type of data-set can be improved through the use of new technologies (both for study and leisure). The structure of the database includes fields for referencing the sources of place-names, coordinates for georeferencing, satellite images and photographs, historical cartography and all relevant archive documents.

FIG. 4. Capo Caccia or *Dead Man* (Northern Sardinia)

FIG. 5. Evident Dead Man not recognized by residents (Mount Cuzzo, Palermo, Sicily)

FIG. 6. Femmina Morta country lane (near Capo Rama, Northern Sicily)

Part II

Database and GIS development supported our research throughout. Above all they served as a graphic tool to evaluate spatial relationships in the dataset. Most importantly, after the initial major refinement process (text-based) a further step was required to fine-tune the points on close inspection using cartography layers in ArcGIS (ESRI GIS Software) and proximity search analysis.

The figure below shows the result after fine-tuning the *Dead Man* place-name database.

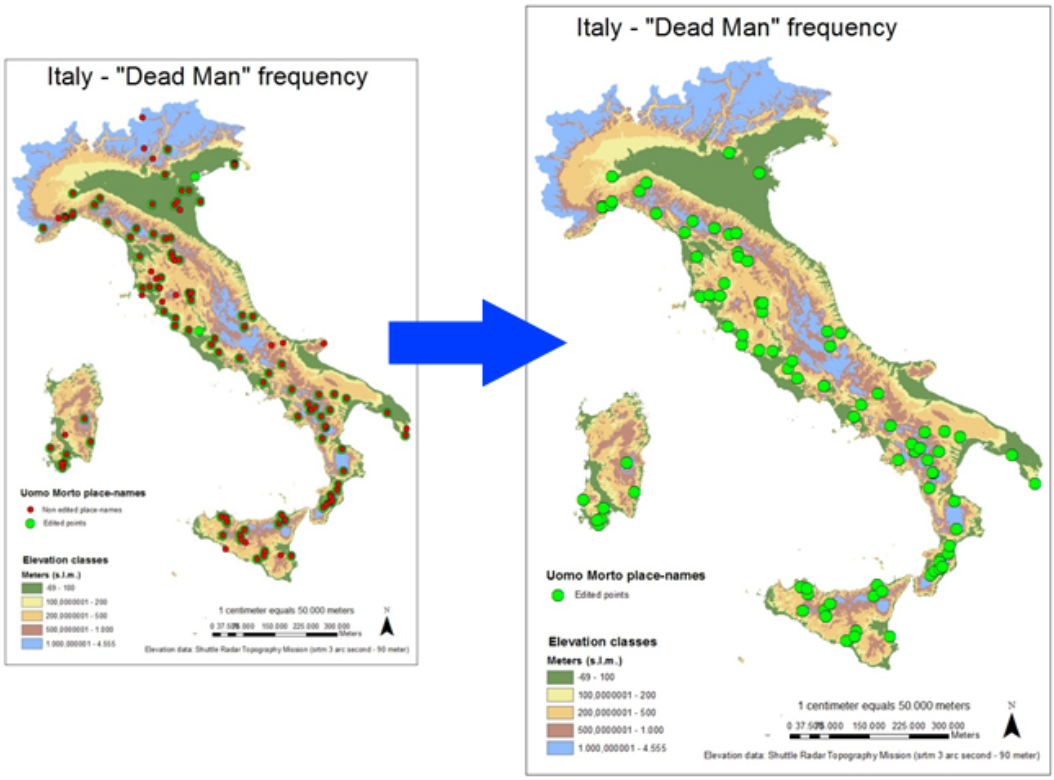

FIG. 7. Refinement process of geodatabase for *Dead Man*

Proximity search and analysis for further refinement of the Dead Man (and Dead Woman) database was conducted using as our base layer IGM cartography integrated in the ArcGIS project. The figure below (FIG. 8) shows an example of spatial inheritance for “Uomo Morto”.

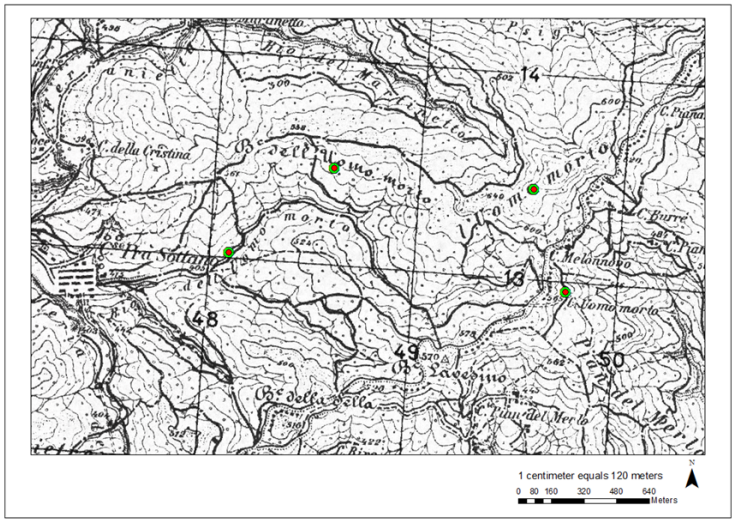

FIG. 8. Dead Man as marked in early black and white IGM 1:25000 cartography

Another use of GIS technology for this research is to plot a distribution map of *Dead Woman* in four elevation classes. The table below is based on the previous map in FIG. 2, and shows the frequency of "Femmina Morta" place-names (pink dots) in four elevation classes with breaks set at 200, 500 and 1000 meters above sea level.

"Femmina Morta" place-names occur mostly in hilly and mountainous areas. In most cases place-names from other classes inherited the same name by proximity and line of sight (FIG. 9).

legend (code)	Elevation classes (mt.)	freq.
112	-200	7
242	200-500	38
194	500-1000	32
143	1000-	29
	TOT. PLACE-NAMES	106

FIG. 9. Frequency of "Femmina Morta" in elevation classes with the code used in ArcGIS

The line of sight of our class of toponyms is crucial when inferring the probable inhabited (or traveled) area where the human profile is most recognizable. The above ArcGIS project was exported for selected places for 3D visualization in Google Earth (GE) virtual globe in order to enhance the analysis of clustered place-names in the database (FIG. 10). The data exported in GE can also be used interactively and it has proved invaluable in remote analysis of information from social networks like Panoramio.com, Youtube.com etc. (FIG. 11, FIG. 12)

FIG. 10. 3D view of IGM map and "Femmina Morta" place-name.

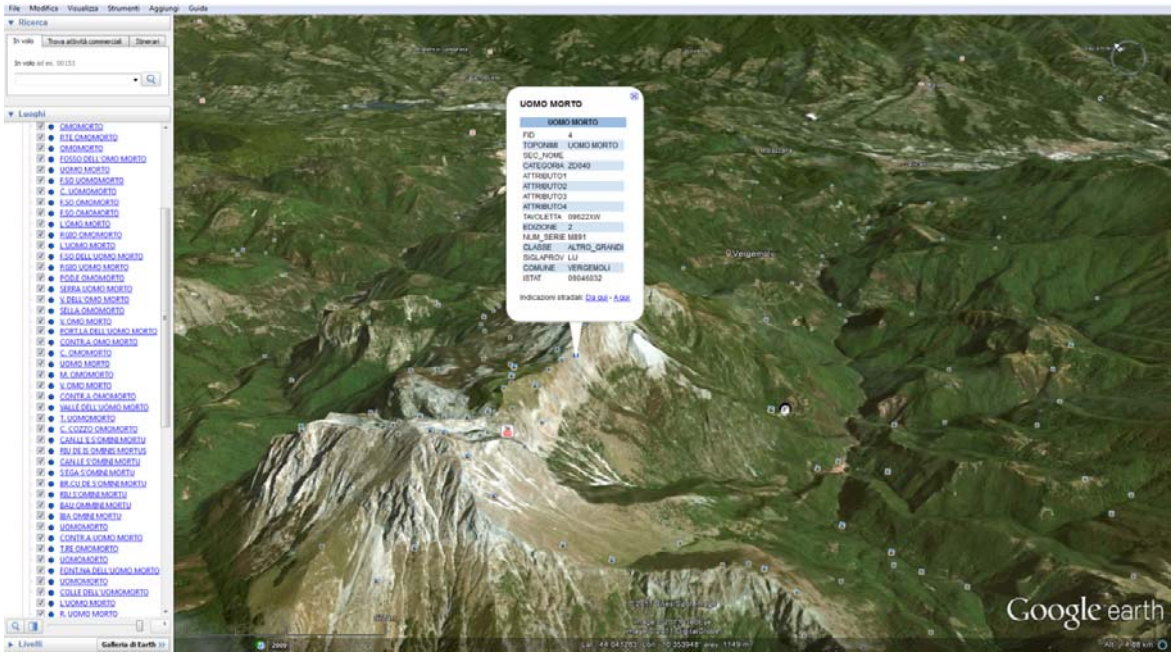

FIG. 11. Dead Man, Apuan Alps, Tuscany, Italy. The database is interactively displayed on Google Earth 3D viewport. Basic place-name information is displayed in the balloon. More documents, such as images and references, will be added at the next stage of research. Also displayed in the viewport are social network icons (numerous photos from Panoramio.com and one video from Youtube.com) which are useful for comparison of line of sight and new place-names.

FIG. 12. The Dead Man and Dead Woman geodatabase displayed in the 3D viewport of Google Earth can be used for virtual view of places and searching for spatially-related social information available in the GE "Layers" panel.

Understanding "Dead Man" (Apuan Alps, Tuscany) relief shapes with remote sensing applications and populating the database with reliable data requires additional skills when cross-checking place-name geomorphology with available satellite and elevation software clients. For example, in this case the profile of the dead man cannot be identified from the

satellite image (right) because the features are not rendered in 3D (elevation data on this scale are interpolated by algorithms). This case is emblematic because the micro relief shape in satellite view is seen as three small shadows (FIG. 13).

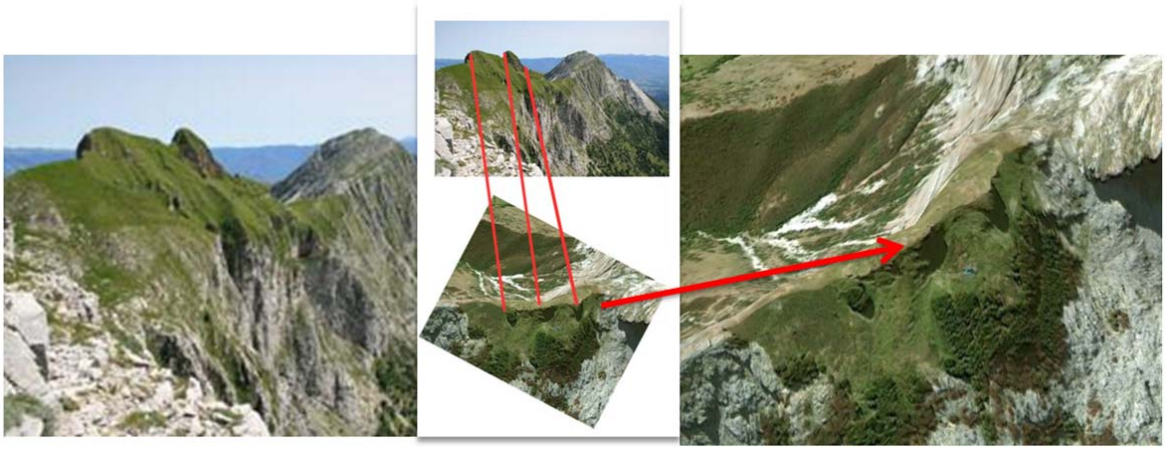

FIG. 13. Photo interpretation of matching profile shadows (images: panoramio.com, google.com)

Conclusions

Our research extends beyond a merely cultural operation. The richness of metaphoric expression in Italian place-names, such as the ones presented in this paper, derives from traditional approaches to the environment, and is today at risk of impoverishment as are micro-toponyms. Even though some new entries appear, micro place-names are being forced out. For instance, early IGM 1:25000 cartography retains the majority, but overall the new maps show a widespread reduction.

For the "Femmina Morta" and "Uomo Morto" type of place-names we can speculate that they could either be forgotten or facing a shift in attribution value,[1] since natural reforestation is ongoing, thus making it more difficult to view the earlier bare relief shapes. This could be the case of "Femmina Morta" in the Pistoia Mountains, near Momigno, which is a gently sloping forest-covered crest.

So studying place-names is thus not so out-of-the-way if we are aware of their value, transmitted from one generation to the next. As noted by several authors, the historical memory of the territory – in which place-names are one of the basic components – could trigger local development and hence increase population identity processes, as observed by several authors (Azzari, et al., 2005; Cassi, 2009).

On the one hand there are geo-linguistic studies, but on the other, if this kind of research were properly disseminated by new Internet applications, it could also apply to cultural itineraries which include geosites in danger of disappearing from maps and also from memory.

Abbreviations and acronyms

CTR: Carta Tecnica Regionale
GE: Google Earth
GIS: Geographic Information System
IGM: Istituto Geografico Militare (Florence, Italy)
SITR-IDT: Sistema Informativo Territoriale Regionale della Sardegna

[1] For example, people might exclude relief-shape dependency and tend to assign Dead Man/Woman place-names to someone who supposedly died there.

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Note: references like "(223 II NE)" are sheet-identifiers (*tavolette*) for the Italian IGM 1:25000 cartography.

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