Summary

Keywords: Toponymy, Semantic web, Geo-Atlas

The Toponymy is a testimony of the "wisdom of the past" and the stratified heritage of a community. It is so necessary preserving the place names as "cultural heritages" in their sources with a careful critical analysis, interdisciplinary and "global" of their geographical properties and of their genesis in the centuries. For this purpose works at the University of Salerno the Laboratory of Historical Cartography and Toponymy which collects, catalogs, analyzes and uses scientifically, for research and geographical education, ancient maps and toponyms of the Italian and european territory. Outcomes of its researches, so far published in several essays, are based on an original model of analysis and classification which aims to encompass all the different methods of geo-toponymy investigation, in diachronic and synchronic sense, for a research about identity and spatial planning "geo culturally" sustainable. On this track, the present contribution aims to strengthen the model through new technologies, with realizing a toponymy geo-atlas based on GIS and semantic web, capable of interfacing with other databases and opened to interaction through the implementation of a barcoding system (based on Web Tag, virtual guides and georeferenced maps).

So, through a simple connection to the Internet, all could interact with information concerning a specific toponym and its space, recovering the past to a better understanding of the present.

Résumé

Mots-clés: Toponymie, Semantic web, Géo-Atlas

La toponymie est un témoignage de la “sagesse du passé” et le patrimoine stratifié d’une communauté. Il est donc nécessaire de préserver les noms de lieux comme «patrimoine culturel» dans leurs sources, avec une analyse critique minutieuse, interdisciplinaire et “globale” de leurs propriétés géographiques et de leur genèse dans les siècles.

A cet effet travaille à l’Université de Salerne le Laboratoire de Cartographie Historique et Toponymie, qui recueille, catalogues, analyse et utilise scientifiquement cartes anciennes et toponymes du territoire italien et européen, afin de la recherche et de l’enseignement géographique.

Les résultats de ses recherches, jusqu’ici publiés dans plusieurs essais, sont basés sur un modèle original d’analyse et de classification qui vise à englober toutes les différentes méthodes d'investigation géo-toponymie dans diachronique et synchronique sens, pour une recherche sur l’identité et l’aménagement du territoire “géo culturellement” durable.

Sur cette piste, la présente contribution vise à renforcer le modèle grâce aux nouvelles technologies, avec la réalisation d’une geo-atlas des noms de lieux basé sur SIG et web sémantique, capable de s’interfacer avec autres bases de données et ouvert à l’interaction avec le personnes, à travers la mise en œuvre d’un système de barcoding (basé sur Web Tag, guides virtuels et cartes géoréférencées).

Ainsi, grâce à une simple connexion à Internet, tous peuvent interagir avec les informations concernant un toponyme spécifique et son espace, il devient possible de récupérer le passé pour mieux comprendre le présent.
Introduction

Toponomy, “disciplinary crossroad”, is a testimony of the “wisdom of the past” and the stratified heritage of a community. It is so necessary to preserve place names as “cultural heritages” contained in various sources (maps, cadastres, dictionaries, guides, archives, literary texts, oral sources, and so on), with a careful critical analysis, interdisciplinary and “global”, of their geographical properties (location, relevance, scale of observation, classifications, relationships, etc.) and of their genesis (in the form and/or in the meaning) during the centuries. That’s just the work of the Laboratory of Historical Cartography and Toponymy of the University of Salerno (founded by Prof. V. Aversano and now directed by myself), which collects, catalogues, analyzes and uses scientifically, for research and geographical education, ancient maps and toponyms of the European and, above all, Italian territory. The outcome of its research – so far published in several essays, as the scientific review “Studi del La.Car.Topon.St.” (n.1-2 [2005-06] and n. 3-4 [2007-08]) – is based on an original model of analysis and classification which aims at encompassing all the different methods of the geo-toponymy investigation, in a diachronic and synchronic sense, for a research concerning identity and spatial planning “geo culturally” sustainable.

Following this route, the present contribution aims to strengthen the aforementioned model through new technologies, with a geo-atlas of toponyms based on the G.I.S. and on the semantic web, capable of interfacing with other information systems equally organized and opened to interaction through the implementation of a barcoding system (based on Web Tag, virtual guides and georeferenced maps). So, through a simple connection to the Internet, everyone can interact with information concerning a specific toponym and its space, recovering the past for a better understanding of the present.

To show practically this premise we would like to present a case study concerning the Cilento, a sub-region of the Campania (region of Italy) about which a few years ago an analysis of its place names was carried out by comparing five historical maps of the seventeenth and nineteenth centuries. The purpose of the analysis, based on the adoption of an analytical-semantic method of classification of place names developed by Prof. Aversano, showed changes and continuities of the “way of life” (using the famous definition of Vidal de la Blache) of the territories of the Cilento through a series of reflections on the changes and continuities of their place names in the centuries.

1. The Cilento’s territorial identity through its place names of the XVII-XIX centuries

The above-mentioned analysis, in general, showed the persistence during the centuries of a strong interaction between place names with anthropogenic-territorial meanings (especially of those showing human settlements and/or religious in nature) and with physical and natural meanings, thus indicating the priority of the difficult relationship between man and nature in the events and,  

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1 The geographic definition of “Cilento” denotes the entire southern part of the province of Salerno, bounded by Mount Marzano and by Mount Eremita (at north-east) and by Diano’s Valley (at east), starting from the plain to the left of the Sele River down to the Gulf of Policastro. Tale definizione supera la tradizionale demarcazione storica della subregione cilentana – che, soprattutto per quanto riguarda il medioevo, la fa corrispondere «al territorio posto fra il corso del fiume Solofrone a nord (o – che fa lo stesso – a cominciare da Agropoli) fino al bacino imbrifero del fiume Alento» – così come la relativa spiegazione etimologica del significato del nome “Cilento” – fatto appunto derivare dall’espressione latina «cis-Alentum (= al di qua dell’Alento, [...]» [per questa e le precedenti citazioni: Aversano, 2007 b, p. 207. Per un più ampio discorso sul significato del toponimo “Cilento” e sulla esatta estensione nel tempo dell’area denotata dall’omonimo coronino, si rimanda ad Aversano 1982 e 1983 – di poi definitivamente confutata: il coronino, infatti, sembra rimandare in realtà a «derivazioni preromane, riferite con molta probabilità a una fortezza posta sulla vetta del Monte Stella o allo stesso rilievo nel suo complesso» o anche, secondo una più recente e dettagliata interpretazione, al nome (Cilens) di una divinità etrusca (Astone, 2012).

2 The classification scheme is based on the transposition of each name in a symbol that expresses in abbreviated form its general and specific meaning. The procedure makes it easier to quantify the prevalence of certain types of place names in a territorial context, simplifying their interpretation from a geographical point of view.
therefore, in the process of creation of place names of the Cilento.

This importance is contained in the special economic vocation of this sub-region, inhabited since ancient times but founded, for historical reasons (from the Middle Ages onwards, as mentioned later), especially on the agricultural and forestry-pastoral activities and less on the commercial ones, of the valleys and sea, as confirmed by the local toponymy.

The interaction between society and nature of places, characterized in many respects by a wild landscape and a rugged morphology, with many towns, mostly of medieval origin and perched on hills, is therefore the basis of the framework of the territorial identity of the Cilento and contains its most important geo-historic elements and the conditions for its future development, today often put at risk by unwise and foolish changes.

The progressive loss of memory of geographical locations and of the “genius loci” that identifies them, in the multiplication of anonymous, fragmented and commodified landscapes, in fact, is an ongoing process even in the Cilento region, especially along its coasts. The alteration of the identity elements of the territories through processes of uncontrolled constructions (also unauthorized), is often worsened by some demeaning pseudo cultural initiatives or avowedly “national-popular”, completely unrelated to the geographical realities of reference and causes of a further degradation and “barbarization” of the places.

The recovery of the identity of the latter is therefore a necessary step for the protection and enhancement of their vocations and of their singularity, according to current program guidelines, state and local, of preservation and enhancement of the cultural identity characteristics of a community. Among the last, place names, as immaterial elements but important for the perception of the territorial identity, are the preferred instruments to thoroughly investigate the relationship between man and his environment in its socio-economic-cultural past and present. As is known, in fact, the geo-historical characteristics of a territory are contained also in the genesis, formation, distribution and in the original sense of its place names. That is why Toponymy, despite being a discipline traditionally reserved for linguists, has long been used in research with a geographic method of comparative and diachronic study, connecting, by virtue of its complexity, a significant amount of multidisciplinary studies³.

Among the most recent research programs we find those relating to the concept of “Semantic Web”, one of the branches of I.C.T. research (Information and Communications Technologies), officially recognized in the early 90s of the last century by the International Geographical Community (with the creation of the Commission for Geography of Telecommunications and of Information of the International Geographical Union) and the European Commission itself⁴.

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³ As “geographical indicators” (Cassi and Marcaccini, 1998) of civilization, kinds of life, events and interrelationships of environmental, economic, political, social and cultural development and as synthesis and compendium of the various branches of knowledge (geographical, historical, linguistic, socio-anthropological, etc.), also for practical purposes (Cassi, 1991; Deli, 1992), the place names require some diversified studies and a stratigraphic reading which have to put into focus the period of their history, society and ethnicity of reference (Nocentini, 2004, p. 698). If they are rare and/or unique witnesses of particular ‘roots’ of the past, they also become immaterial “cultural heritage”, not only worthy of being reported and interpreted, but also saved and safeguarded (Aversano, 2006 [b], p. 170 ). In each name there is, therefore, a fragment of culture and “identity” of an area which has to be rebuilt and protected, understanding the latter as a «palimpsest of nature and history, result of the changing relationships over time (built and sometimes unstructured), of vertical [...] and horizontal kind» (Aversano, 2006 [a], p. 54).

⁴ Considering the “information society” as a new area of interest for EU territorial policies, the current design guidelines of the EU promote the advanced use of I.C.T. by citizens, businesses and administrations, recognizing their usefulness for the processes of management and planning in the activation of the governance through the interaction between management action “from above” and collective action “from below”. Geography, in turn, given the current technological changes, having examined the relationship between communities and places of origin (the main object of investigation) from innovative points of view, contributes to the growth and consolidation of theoretical and empirical studies on the Information Society with the birth of a special field of geographical research (Hall e Preston, 1988; Feldman M. P., Florida R., 1994; Lawson, 1997; Lazzeroni, 2004, 2009; Paradiso, 2004, 2006, 2009).
1.2 Convergence of Toponimy, semantic web and administrative guidelines in a geosystemic viewpoint

According to this orientation we propose the description of a wider “ontological” pattern of organization and representation of place names of the Cilento, based on the concept of Semantic Web, on the basis of which to achieve the realization of a “Geo-atlas of the Cilento’s toponimy” conceived as a dynamic information system and able to establish semantic relationships between elements formally different, highlighting the possibility of a theoretical development and application of I.C.T. applied to geographic research.

The ultimate goal of the operation aims to interrelate, in a systemic perspective, the toponyms and the places on which they insist with all kinds of geographical, historical and cultural sources available that may affect them, to show the identity characteristics of their deeper geographical context and highlight the changes which have happened over the centuries, both for scientific knowledge as well as in view of a future planning.

The Geo-atlas as such meets the planning guidelines of the P.T.R. Campania 2006 and to all territorial policies based on a different organization of local administrative network that, in the case of the Cilento and, in general, of the Campania region – «creature much more of a story than of geography» (G. Galasso) – is revealed very appropriate. It is in fact necessary to initiate policies of land management based on a direct and specific geographic knowledge of the places to be able to really identify their strengths and weaknesses. In this operation, aimed at the exploitation of local territorial identities through the recovery and development of knowledge of their past and of their present, the geographers are personally involved, the more so because they are accustomed to directing their inquiries to the construction and implementation of “networks” based on the systemic-relational logic.

The latter, in fact, for almost two decades has been at the center of the regional plans of regeneration and development. Regarding the Cilento among the various projects oriented in this direction emerges one called “The City of the Park”, based on the idea of creating aggregations between municipalities (above all those included in the National Park of Cilento and Diano’s Valley) for the formation of homogeneous systems of development, regardless of the boundaries of the old provinces.

The aim thus is to create a system of interconnection processing of individual programs and management procedures and maintenance – according to the concept of “creating a network” or “a system” – for the growth and development of the area. This perspective places particular emphasis on supporting the advancement of private entrepreneurship and local awareness of sustainable tourism, through building and/or strengthening of a “reticular logic” that overcomes the “deficiencies of the system” of the southern economy, in a relational geographical perspective, through the development of internal networks (among local participants) and external (among local participants and those from other areas) for the implementation of synergies aimed at the progression of local resources.

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5 If ontology, according to the original definition of Aristotle, (Metaphysics, IV, 2, 1003, a20) is “the science which considers the being as being,” in computer science it becomes the instrument to describe, represent, conceptualize the part of the world that we want modelled in an application. The term is then used to indicate “a data structure that contains the relevant entities, relationships between them, rules and constraints of the domain that one wants to represent (Brida, 2010, p. 89).

6 The current Campania was “built” after the unification of Italy (it was one of the “statistical compartments” of Pietro Maestri for the fulfillment of the Italian Statistical Yearbook), but does not correspond to a homogeneous geographical area. Just consider the contradiction between the meaning of its Latin etymology (c Campus = plain) and the preponderance, in its current extension, of the mountain and hill areas in respect to the lowland (respectively 35%, 50% and 15% according to the Campania’s Statistical Yearbook).

7 The National Park of Cilento and Vallo di Diano (PNCVD), established in 1991, lies in an area of 1810 square kilometers distributed among eighty communes and extended between the Tyrrhenian coast to the foot of the Campania and Basilicata. It includes Mount Cervati, the Gelbison, which dominates the town of Vallo della Lucania, and the Alburni, extending for about two hundred sq km forming the northern part of the Cilento.
This objective is particularly difficult to achieve in the case of the Cilento, not only for objective lack of infrastructure but, above all, for rooted socio-cultural reasons. The community of the Cilento, in fact, traditionally anchored to the hills and to the mountains and less linked to the sea, for geographical and historical circumstances, has been accustomed for centuries to a “self-sufficient” isolation, learning to survive on its own means in coexistence with «a weak and uncertain idea of the state», cultivating «the suspect, the particularism, the distrust, closure and behavior with respect to the central power finalized not to cooperate in good faith, but to obtain benefit, in terms of personal gain, opportunities available» (Mello, 1989, p 32).

The move towards a culture based instead on the idea of cooperation and interrelation is therefore particularly arduous and requires the joint use of multiple and diverse instruments. One of these, of course, can certainly be the use of internet and of computers, as charming “attractors”, especially for the younger generation, geared to the logic of the web. Toward this philosophy moves precisely the idea of the Geo-atlas of Cilento’s place names, aimed at interacting with other Information Systems into a synergistic and interrelated design vision, that sees the collaboration of different disciplines, combining the logic of the semantic web with the one of a renewed geography, economic and administrative, oriented in a systemic perspective.

2. Case study: the town of Ascea

To provide a practical example of how the Atlas intends operate within this perspective, we chose to study the town of Ascea which includes the ruins of Velia-Elea (an ancient town founded in the sixth century B.C. by the Greeks of Asia Minor, becoming one of the main cultural centers of “Magna Grecia”) and still preserves the memory of its past as a Greek colony and as the house of the famous Eleatic school of philosophy. Ascea can be considered an emblematic location of the Cilento’s reality as early as the meaning of the name, which embodies the deep connection between man and nature and is linked to the positive position of the center (well exposed to the sun and to the winds), to the shape of the hilly ground on which it stands (near to white cliffs overlooking the sea, alternated with wide sandy beaches) and to the presence of the waterways (river Alento and terminal portions of some of its tributaries). In the positive elements of Ascea we could write also the richness of the natural and

8 This “mindset” of the Cilento could be a consequence of the historical events of the Middle Ages, when the contacts with the Mediterranean, which had characterized the Cilento of the Greeks and the Romans, cease. The causes of the change are not the work of the Lombards and Normans, considering the positive and concomitant presence of Benedictine, Augustinians and Basilian monks. The cause of the crisis is instead a direct consequence of the War of the Vespers (1282 [twelve eighty two]-1302 [thirteen twol]) and of the long series of foreign domination followed from the Angevins on, transforming the Cilento in a poor and marginalized land, with no roads and communications, without politically influential centers (loosely based on Santangelo, 1993, chap. III, on line).

9 Strabo (Geography, VI, 1), describing the Gulf of Salerno, between Punta Campanella and the plain of Paestum, so writes about Elea: «The Phoenicians who founded it, called her iela; others, by a certain fountain that is located there, call it Ella and the contemporaries Elea. Then they were of this city Parmenides and Zeno, Pythagorean philosophers. It seems to me that through the work of these two, or even before them, the city was governed by good laws [...] Antiochus says that, after that Phocaea was conquered from Harpagus, general of Cyrus, the citizens which were successful to escape trough the sea with their families, first sailed under Creontide to Cirno and Messalia; then, driven away by this places, they founded Elea: the name of which some people derive from the river Eleeto. This city is far from Posidonia about two hundred stadia; after it, there is the promontory Palinuro».

10 For this purpose, since about fifteen years, has been operating in the territory the Foundation Alario for Elea-Velia, a non-profit organization, working in the culture and in the high training, born on 6 June 1986 and operational since 1997, created by the will of Ms Gaetana Alario, the last descendant of a known and distinguished family of Cilento. The Foundation is a private institution that operates in the public interest, supported by its own statute and recognized by the Campania Region with Decree No. 350 of 22 January 1988.

11 The name (in dialect “a sia” and the “l’sacea” or “Lascea” in the cartography of seventeenth and eighteenth centuries) according to Battisti is probably a deformation of the ancient name “Isacia”, an island with an harbor, 5 km from Velia, mentioned by Strabo and by Pliny, and now united to the hill on which is Ascea. For Finamore the name would find
cultivated vegetation – the forest, the garrigue, the arable land, the orchard, the olive grove, the chestnut tree – and an anthropic landscape characterized by the presence of hill towns and, on the plain, of scattered rural homes. But in addition to natural resources, to geo-historical memories and unexpressed potential, Ascea also stands out because of the obvious landscape and environmental problems that afflict it.

The current town, in fact, is in difficulty for the pressures and tensions exerted by an increasing mass-tourism developments and by too many buildings, compared to local needs. The city is deficient in services and connections, and is poorly integrated with the rest of the territory, while it contains a high amount of resident population (5568 inhabitants according to ISTAT data of 2012, on an area of 37 sq km, with a density of about 150 inhabitants per sq km).

The discomfort is tangible, in particular considering the uncontrolled growth of the hamlet of Ascea Marina, where the damage produced by a series of landscape changes caused by particular and shortsighted logic is evident and which has produced devastating results for the coastal territory, again more paradoxical because architecturally unpleasant buildings are situated just two steps from the archaeological excavations of ancient Velia-Elea.

The severity of the damage emerges from direct observation but also through some specialized studies of recent years, such as those aimed at the realization of the “City Urban Planning” of Ascea. These show precisely that the main problems of the center “are related to an increase of the buildings which, for the intensity and especially for the way in which they occurred, have produced environmental pressure and landscape fragmentation in excess of sustainability” (Champion-Ferrara, 2008, p. 39).

So this area, overlooking the wide bay where the Fiumarella flows out and characterized in the past by the presence of a rich Mediterranean maquis (cistus, myrtle and mastic), has become a messy conglomeration of concrete, devoid of identity and history. This fact has consequences on the population, from a physical and psychological point of view, as well as amply demonstrated by recent studies on the relationship between community and territory (as, e.g., Tarja Keisteri shows in his research on the interaction between landscape and community at different scales of observation12).

Even the names of the streets near the coast reflect the destruction of the landscape: we find fake names, artificial, now linked to the philosophers of the Eleatic school (Parmenide and Zenone above all), now to the gods (e.g. Ceres, Neptune street, avenue of the Sirens) and to the places (e.g. Leucosia, Corso Elea) of Magna Grecia, then to the natural elements (e.g. Sun Street, Sea Street), with no real links with the territory13.

The artifact character of the place names makes even more striking the contrast with the squalor of the places named, highlighting the state of desolation and anonymity that characterizes the territory of Ascea (especially, we repeat, the hamlet of Ascea Marina, on the sea front), as a result of the destruction of the landscape of the past and, with it, of the identity elements contained in the natural and man-made features that distinguished it.

Therefore the recovery of the latter necessarily passes through the enhancement of the original landscape, with its tangible and intangible assets (including place names), as a no doubt key factor in the process of the local development of Ascea, “which includes in equal proportion the recovery of previous critical problems and the commissioning of potential values to date ignored”, with a U-turn in the planning policy, which must put a stop to the proliferation of buildings and to

origin from a Byzantine name "ascaios" (?) which would mean a not obscure place, favorable to the seaport (Dictionary UTET).
12 The results of such research, as known, are published in the article titled "Multilevel model for the concept of landscape" (1990).
13 In the interpretation of A. Turco (2000, p. 16) territorialisation is «the set of events that have occurred and sedimented on the ground, for example in a landscape» but also «the set of processes of which has been preserved the non-realized, that is a mere possibility».
the waste of resources (Champs-Ferrara, 2008, p. 39).

In fact, the foundation of this change of perspective is contained in the European Landscape Convention of 2000 (ratified by the Italian Parliament with Law no. 14 of 09/01/2006), which defines the perception of the landscape as a conceptual basis for every territorial practice and highlights the need to safeguard every its characteristic element. The landscape, in fact, is legally recognized as “an essential component of the living environment of the people, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity” (2000, ch., Art. 5).

2.1 The recovery and enrichment of the Cilento’s landscape through the Geo-atlas of place names

Based on these assumptions, considering that each name is an expression of a community in its relationship with the territory, in terms of material and psychological perception, the study of place names and their networking rightly enters within policies on the landscape and planning “from below” that underpin today’s policies inspired by the concept of territorial governance. The recovery, classification and processing of place-names as exportable elements in a database organized according to the model of the semantic web is just one of the tools for the strengthening and expansion of these guidelines.

According to the idea of its founder (Tim Berners-Lee), in fact, the Semantic Web is a “virtual” environment (as discloses his Latin meaning of “potential”) in which information and data are described as interrelated systems through an ontologic-semantic method (which describes the real objects through formal logic), so they may become available through search engines” smart “by fostering cooperation between scholars from all over the world (Berners-Lee and Hendler and Lassila, 2001). Therefore, the ontological description of place names and, in this case, of the names of the streets of Ascea – conceived from the point of view of the Geo-atlas as a geo-based location (spatial reproductions georeferred and identifiable by a G.P.S. and which can be represented by a G.I.S.) – can show all their connections and meanings within a virtual city, which is enhanced in terms of quantity and quality, making clear all the elements belonging to the territorial assets and to the geo-historic places. In view of the semantic web one can enhance investigations on geographical place names, overcoming every abstract etymological interpretation, so considering properly their territorial significance, based on an analysis of all possible points of view and of their intrinsic and extrinsic interrelationships.

According to this perspective, the place names of Cilento and also the names of the streets of its towns, selected, counted, interpreted, ontologically described, should be collated as “entries” in the information system of the Geo-Atlas, in connection with other documents and geographical objects, organized according to logic nodes of the semantic web. In this way, through the amplification of the possibilities of perception and understanding of ‘invisible’ resources of the territory, the Geo-Atlas can help to promote the places from the point of view of landscape and of cultural tourism, in reference to their macro and micro areas.

The advantage in terms of representation of meanings and of their relationships for the
geographical understanding of the dynamics of the Cilento area is therefore of considerable value\textsuperscript{15}. The problem is rather to define how to present a set of place-names in the context of the Semantic Web, that is how to show their relationships internal/external (in a diachronic and synchronic sense) and the link with the territory of which they are part. It could be of help at this point to imagine each place name in the geo-atlas as an open structure, where relationships are indefinitely expandable, potentially at least.

3. How to represent a territorial context of place names through the semantic web

The difficulty of representing the semantic relationships between place names derives primarily from having to decode their meaning from the geographic-historical context and then translate it into a language of formal logic. The meanings of place names, in fact, represent the product and not the simple sum of interdependent territorial elements\textsuperscript{16}. For this purpose, the names of the Geo-atlas of Cilento must first be investigated and based on an “integrated documentation”, as a result of the dynamic construction of ontologic relations between diversified sources, made visible through an appropriate interface. To provide an overall idea of the ontological relations of every name one can then use a map of reticular type, which shows the name in the center of a network of logical interrelationships with all possible information about it, underlining with evidence (potentially at different scales) its interrelations with other territorial elements.

These interrelationships – it is important to emphasize – are not static but dynamic, since, in time, they could change the links between place names and associated documents, thanks to discovery of more clues and research hypotheses. So new links could be added between place names and geographical features, be these historical or linguistic, of those places on which they insist, linked to the network to which they belong (along with micro-placenames and names of the streets), to the various sources that contain them (archival documents, literary works, reference maps, oral sources, investigations on the ground), to their type and their classification\textsuperscript{17}.

\textsuperscript{15} In the semantic model, in fact, the data and their meanings, at the conceptual level, are represented with the use of ontology languages that can express any kind of relationship with a hierarchical classification of the relationships (between objects, concepts and main connections) as well as produce other information automatically, expressing new concepts and relationships in addition to those existing in the original data through the implementation of formal logic. It is therefore an ideal model to integrate data from different sources, as are those of the Toponomastic. In fact, in the geographical research in particular, as anticipated, one must consider several reports about the place names of a given territory, including multiple sources of retrieval (historical maps and/or recent archival documents, literary works, oral traditions, and so on). The meaning of a place name, therefore, must be interpreted considering the sources of specific place on which it stands and the relationships with other place names, more or less contiguous. The Semantic Web can interpret to the best this requirement, allowing to establish links from the point of view of the absolute and systemic space (deterministic/possibilistic/functional relationships between society and the environment) and mapping, through the development (in the ontologic language) of the semantic relationships between the elements of a representation.

\textsuperscript{16} As noted by Aversano (2006 [b]), it follows that the place names can reveal the peculiar characteristics of a geographic area that, in isolation, they may not show by no means. So borns the aim of making explicit their meanings and their complex interrelationships through their representation in a semantic system.

\textsuperscript{17} In this respect, among the various proposals tested, is particularly useful the aforementioned classification system devised by V. Aversano (Aversano, 2006 [a]), based on the reduction of the meanings of the place names in initials read from a geographical viewpoint. This system could in fact become a useful starting point for the connection of the “nodes” of a large topographic network, consisting of multiple information systems and organized according to the rules of the semantic web.
4. Conclusions

Through the idea of a Geo-atlas of the place names of the Cilento we have tried to make clear that the place names, from a geographical systemic point of view, combined with the modern technologies of the Semantic Web, are capable of producing visions of the landscapes enhanced in their geo-historical expressions and in their potential attitudes for a sustainable develop in their territorial areas of reference.

The combination among new technologies and geographical methods therefore produces results in line with the need for the contemporary geographers to investigate the territory in its many forms according to a relational logic, able to expand the reflection also to the intangible aspects of the territory, transforming it into a holistic system, in a virtual organism that reproduces and visibly manifests all the complex interactions present in a geographical area.

The model proposed for the realization of the Geo-Atlas of the place names of the Cilento, through the construction of a system based on geographical data systems – georeferred and interrelated with the geo-historic knowledge and with a direct investigation on site – aims to enhance territorial information with new sources, added to the previous knowledge, for the understanding of a geographic area, in its internal and external relations, vertical and horizontal, making them accessible, dynamic and updated in real time, even expendable for the purposes of cultural tourism, if we consider the current systems of barcoding.\[18\]

This objective also wants to promote the theme of the Kyoto International Conference of this year, related to the need for geographers to study the geographical changes that globalization and other changes of a planetary nature have caused to the world. The negative consequences on a local, national and global level of these changes stem also from the environmental and landscape changes: economic inequality, social fragmentation, political conflicts and social crises are their direct results. Hence the need to study the past and the geo-history of places and territories, investigating forms of human interaction with the environment, for the understanding of the present and for the identification of possible solutions to its current problems.

\[18\] The barcoding system (based on Web Tags, virtual guides and maps georeferenced), through a mobile device, allows anyone to access and interact as a "sensor" with the being conveyed information. The system has a very simple operation: by framing an object "tagged" with a camera phone of new generation, can be displayed clickable icons and menus on the monitor that allow you to access detailed information concerning them, with the additional possibility to download other related information. The functionality of the barcoding can also be of a practical nature: it gives, e.g., the possibility of offering not only cultural information and/or tourist information but also of service, as the location of a public office, of a pharmacy, or of a hospital and to be able immediately arrive at them (by downloading the route on your GPS) or communicate with them through phone or email.
Fig. 1. Johannes Janssonius, *Itala nam tellus / Graeciamaior erat / Ovid IV Fastor / Haec Italiae pars / nunc primum de prisca / aerugine est abstersa et eiusmodi ut videre licet ni/tori reddita* (1640 ca). The overthrow of the Italian boot (with Puglia at north and Campania, Calabria and Sicily at east and northeast) may be a gimmick inherited from the medieval cartography (one can think about the representation of Italy by Al Idrisi, e.g.), with which one wants to attach more importance to Southern Italy, already Magna Grecia, here showed with the ancient place names. In the red rectangle was highlighted the gulf in front of Ascea (which is called here with the ancient name of Elea-Hyele).

Source:

![Fig. 1 Image]

Fig. 2. *Velia / The beach of Velia (about 1830), etching. Author unknown.*

Source: Private collection Nicola Ventre, Agropoli.
Fig. 3. Some of the roads of Ascea Marina, with place names artifacts or trivial, juxtaposed without any real, authentic local roots in the places on which they insist.
Source: Google Maps, 2013.

Fig. 4. A possible representation of a place name (in this case Ascea) in the Geo-Atlas of place names of Cilento. The contents and their links are not static, but the result of dynamic combinations between objects ontologically described.
Source: image drawn by the author
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