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Intangible Cultural Heritage Webs
Comparing national networks with digital methods

Marta Severo, Tommaso Venturini

Keywords : intangible cultural heritage, Internet, digital methods, social networks, UNESCO, States, cultural policy, cartography, Web.

Abstract

The 2003 Unesco Convention for the safeguarding of the intangible cultural heritage (ICH) is addressed to States and assigns them several tasks. No State, however, can accomplish all these tasks without mobilizing a wide network of institutions, associations and individuals. The national ICH policies intersect, overlap and often transform the existing relationships among these actors. This paper aims at comparing several national networks (France, Italy, Switzerland) involved in the implementation of the 2003 Unesco Convention in order to highlight national trends and specificities. The analysis will employ an innovative methodology based on digital methods and aimed at exploring the landscapes of websites dedicated to the intangible heritage. Analyzing the hyperlinking strategies of ICH actors, we will identify the specific web topology of each nation, showing which actors are central and peripheral, whether clusters or cliques are formed and who plays the roles of authority and hub.

Introduction

In recent years, globalization and social transformation started to pose dangerous threats to the preservation of the cultural heritage based on oral transmission and traditional culture. If, after the Second World War, governments felt the need to preserve important parts of their culture represented by built heritage such as the pyramids at Giza or the Great Wall of China, today societies (especially in non-western countries) are afraid to loose portions of their cultural identity related to orality and tradition. In countries such as Korea and Japan, industrialization, urbanisation, and westernisation are clearly threats for cultural items (music, drama, martial arts, skills, crafts…) completely based on oral expression, that can be exemplified with the case of the Living National Treasures, people identified as keepers of important intangible cultural properties.

In 2003, recognizing these risks, the Unesco decided to endorse the label intangible cultural heritage (from now on ICH)[1] to protect 'the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artifacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage.' (art. 2, Convention). By issuing the 2003 *Convention for the safeguarding of the intangible cultural heritage*, the Unesco acknowledged the importance of oral expressions and traditional practices and the urgency of their preservation.

To assure such preservation, the Convention established the need for an international system of safeguard analogous to the one that, since 1972, protects the tangible heritage (such monuments,

cities, landscapes..) through the *Convention concerning the Protection of the World Cultural and Natural Heritage.* As the previous 'World Heritage Convention' for tangible properties, the 2003 ICH Convention is explicitly addressed to States and assigns them several tasks, such as: ensure the safeguarding (art.11) ; draw up inventories of intangible properties (art.12) ; designate or establish one or more competent bodies for protecting them ; foster scientific, technical and artistic studies and adopt appropriate legal, technical, administrative and financial measures (art.14) for assuring their safeguard ; support education, awareness-raising and capacity-building concerning this heritage (art.15) ; and foremost ensure the participation of communities (art.16) in all actions of preservation.

While granting intangible practices and expressions the same consideration accorded to material legacies, UNESCO experts recognized that the two types of heritage require radically different preservation systems.[2] For one thing, intangible practices are impossible to preserve simply through the State-centred approach that Unesco adopted for cultural properties, such as monuments and sites. Intangible heritage is by definition a living heritage, a heritage that is nurtured by the communities that initiated it and continue recreating it. Preserving the intangible heritage means first of all assuring the life and persistence of such communities of practice, a goal that calls for bottom-up and decentralized approaches (Blake, 2008).

As a consequence, although national States remain the first addresses of the Unesco, the 2003 Convention recognizes that numerous other actors play an irreplaceable role in the preservation of oral traditions and cultural practices (Kurin, 2004). Intangible cultural heritage is created and sustained by vast and complex networks of institutions, associations, NGOs, groups and even single individuals. *To be sure, no State can accomplish all the tasks imposed in the Convention without involving a wide network of actors.*

In the last years, the States that ratified the Convention have coped with the urgency of building a preservation system capable of involving all the actors that contribute to safeguard the intangible heritage. The emergence of a new governance to manage ICH has intersected, overlapped and often transformed the existing routines affecting the relationships among the different actors in charge of cultural heritage, with specific dynamics in each country. As we will see, in each State, the structure of the ICH network tends to mirror the national approach to ICH and its management. In this paper, we will explore a few national ICH networks, trying to understand who are the main actors and how they interact to create a (more or less) integrated system of preservation.

Such type of investigation is difficult for at least four reasons:

1. ICH networks are wide and widespread. They count dozens, sometimes hundreds, of actors spread across several regions and sometime across several countries.

2. ICH networks are heterogeneous. They gather actors coming from different universes, from amateurs associations to international institutions, from cultural establishments to economic enterprises, from traditional experts to academic scholars. The connections that bound these actors are not less varied, spanning from counseling to funding, from collaboration to competition, from scientific to market interests.

3. ICH networks often embrace different languages. Not only different national languages, but also different dialects and technical jargons.

4. The construction of a national ICH preservation system is a relatively new phenomenon and one that has not yet been thoroughly studied.

These four obstacles make it difficult to reconstruct even the smallest ICH networks, let alone comparing different networks. How to identify the myriad of actors engaged in the preservation of oral expressions and cultural practices? How to follow their multiple relations across national and linguistic borders? How to reconstruct a web of formal and information interactions in constant transformation? Since answering to these questions with traditional research methods is difficult for the reasons explained above, we decided to turn to *digital methods*.

Methodology: the digital methods

By 'digital methods' we refer to a series of techniques designed to explore the traces of online interactions as source of information on social phenomena.[3] The first evidence of the potential of such methods has been provided by the famous Google study on flu epidemics in United States.[4] By screening the queries addressed to their search engines between 2003 and 2008, Google's engineers devised an indicator that not only obtained an amazing 0.97 correlation with the data of the Centre for Disease Control data, but did it with a couple of weeks of advance. Published by Nature, the Google flu study convincingly demonstrated that online traces can be used to investigate offline phenomena (Ginsberg et al, 2009).

Besides the analysis of search engine data, many other digital methods entered the toolkit of social sciences in the last few years (Lazer et al, 2009)[5]. In this research, we will draw on 'web mapping' a method that proved particularly helpful in tracing complex social networks. The idea behind such method is that hyperlinks can be used as proxy of social connections. Despite the marginal cost required to create a hyperlink, it has been repeatedly observed that Web authors tend to be extremely careful in establishing connections and in particular:

1. they cite preferentially websites that share their thematic or social focus;

2. they do not cite websites that, though socially or thematically close, have opposite viewpoints.

If the first behaviour is not surprising, the second is more intriguing. People and groups having opposite position tend to ignore each other on the Web: they do not cite negatively, they do not cite at all.[6] The result is that the Web is not randomly organized. Linking their discourse to other online discourses, users establish hierarchies and clusters (Gibson, Kleinberg and Raghavan, 1998). Like the Internet, the Web is not a single network, but a network of networks, a graph where densely connected zones are separated by relatively empty spaces. Most of the time, these territories correspond to thematic communities: clusters of people gathering around interests and viewpoints. The hyperlinks connecting the websites dedicated to ICH can therefore reveal much about the networks of actors concerned ICH preservation. To say in other words, knowing which sites are hyperlinked online, we can infer which actors are connected offline.

Our analysis went through four successive steps.

1) As a first step we identified, in each country, the main actors related to intangible heritage. Generally, we started from websites of national agencies in charge of intangible heritage (such as Ministry of culture and the Unesco national commission) and from the websites dedicated to the items inscribed on the Unesco lists. Then, using several automatic and manual crawlers (especially the Issuecrawler[7] and the Navicrawler[8]) we explored their websites keeping track of all the links that they contain, to discover other interesting websites and build the networks of connections among them.

2) As a second step, we categorized each website according to the type of actor it represents and to the dimension at which the actor operates.

- As for the type of actor, drawing on the information available on the websites we distinguished among institutions (governing bodies at international, national or local level), associations (profit or non-profit organizations) and individual (single individual or group of individuals with no formal organisation).

- As for the dimension of actors, drawing on the information available on the website we tried to define the focus of the activities of the actor: international (if the activities exceeds the boundaries of the country); national (if the activities concern the whole country or several areas of it); and local (if the activities concern a specific region or city).[9]

3) As a third step, we analyzed and visualized the resulting networks through a graphs manipulation tool (Gephi[10]). Analyzing the linking strategies of actors, we tried to identify the specific topology of each national preservation network, showing which actors are central and peripheral, if and how websites are gathered into separated clusters and who plays the role of authority in the networks.

1) As a fourth step, in order to enhance the readability of our networks, we used a script developed at Sciences Po médialab to turn our graphs into heatmaps (more below).

In the next few pages, we will discuss several graphs and heatmaps representing the network of ICH actors in three different countries: Italy, France and Switzerland. In order to interpret the following images, it is important to keep in mind that these visualisations are not geographical maps. The websites are not positioned in the image according to their geographical coordinates, but to their connectivity: nodes (the white dots in the image) are closer if there are directly or indirectly connected by hyperlinks. The coloured areas in the images represent the concentration of websites of the same type in the same region of the network (for example a very green area indicates an high density of red nodes). To be more precise, these are the design rules that have been followed in drawing them:

- The position of the nodes is significant and depends on their connections. Unlike, geographical maps, scatter plots and other Cartesian representations, the space of graphs do not pre-exist to the data that it contains and the position of each point does not, in itself, provide any useful information. In our images, there is no background map that would give sense to the *absolute*

position of the nodes. Still the *relative* disposition of the nodes is not meaningless. All the networks that we will show are spatialized according to a force-vector algorithm called Force Atlas 2 (Jacomy et al, 2011). Such algorithm work by attributing a repulsive force to nodes and an attractive force to links. Once the algorithm is launched it changes the disposition of nodes until reaching the equilibrium that guarantees the best balance of forces. Such equilibrium guarantees that if two nodes are close in the specialized the graph, they are connected directly or indirectly (connected to the same set of nodes). In other words, the fact that a nodes is positioned at the top, bottom, right or left margin of the images is fortuitous, but the fact that it is positioned toward the margin (and not toward the centre) and the fact that it is positioned close to some nodes (and not others) is meaningful. Running the same spatialization algorithm several times, the images could be rotated or flipped, but the *relative* position of the nodes would not change (close nodes will always be close, far nodes will always be far).

- The size of the nodes is used to rank them. In particular, we chose to rank node by their 'visibility' in the network, computed as the number of links that they receive from other nodes (their 'in-degree'). In the following graphs, the size of each node is therefore proportional to the number of websites that cite it.
- The colour of the nodes is used to represent their category. As we said, websites have been categorized according to their type (blue points represent institutions, green points represent associations and red points represent individuals and groups) and to their dimension (red points represent international actors, blue points represent national actors, green points represent local actors). The two colour codes are consistent throughout all the graphs.
- Since in our graphs the positions and colours of nodes express respectively the connectivity and the categorization, the presence of many nodes of the same colour in the same region of the graph is meaningful. It allows to know if nodes cluster by category (that is to say, if nodes of the same colour are more connected among themselves than with nodes with a different colour) and to infer the relative position of different categories (i.e. which categories are central and which are marginal). To make this type of information more readable we employed a heatmap visualization. To obtain such visualization each node is represented as a source of light. A coloured light emanates from the centre of each node with a colour that depends on the node colour and an intensity and irradiation that are proportional to the node size. The result is an image where different areas are coloured according to the predominant type of nodes and lighter areas correspond to regions of the graph with a higher density of nodes[11].

Before moving to the analysis, as a disclaimer for the rest of this article, let us underline that hyperlink networks do not always match the state of offline relationships. For one thing, websites are not always up to date. For another, hyperlinks in different sections of a website may have different meanings that our method is incapable to distinguish (for example we do no differentiate between links in the news, links in the partners page and links in banners). Still, although web mapping cannot provide an exhaustive description of ICH networks, it may suggest interesting research directions and provide discussion ideas.

Italian ICH Web

Starting from the websites of the Ministry of Culture (www.beniculturali.it), the National Commission for UNESCO (www.unesco.it) and several websites related to Italian items inscribed on the Unesco list,[12] the analysis identified a network of 218 nodes and 802 connections. Such network has a relatively centralized structure and the centre is occupied by national (24,5% of the nodes) and international (9%) websites. The majority of the actors, however, operate on a local dimension: regional bodies, urban organizations and even actors based in little villages (66,5%).

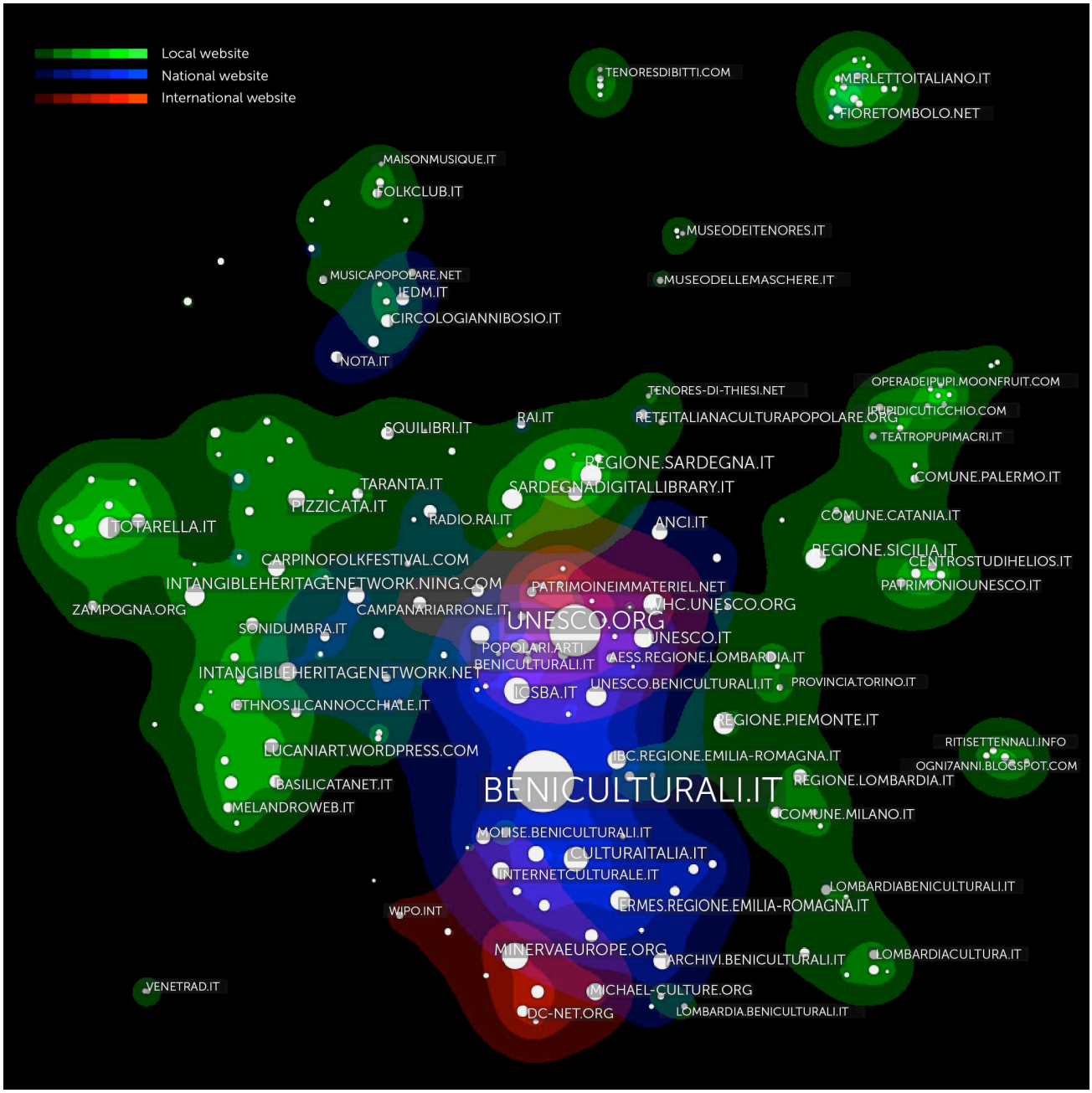


Figure 1. Heatmap of the Italian network of ICH websites (coloured by dimension)

The network shows a relatively low density: around the central core (composed by the most visible nodes) the other actors organize independently occupying the margins of the network (see Figure

1). The central group, manly composed by institutional actors, is surrounded by more or less interconnected groups of local actors. We can identify, for example, some geographic clusters such as Sardinia's websites (mostly related to *The Canto a tenore* and occupying the top of the graph), Sicilia's websites (mostly related to *Opera dei Pupi* at the right of the image) and Lombardy' websites (not related to a specific item, at the bottom right of the image). It is important to remind the reader that our images are not based on a geographical projection, if the Sardinian websites are close in the network it is not because they concern the same Italian region, but because there are many hyperlinks connecting them.

It is also possible to notice several thematic clusters: websites related to lace (a dense and separated cluster in the top right corner of the image) or to traditional dances (*pizzica* and *tarantella* at the left of the image) or to the preparation of a candidature (such as seven-year ritual of penance in honour of the Assumption, a small cluster at the middle right of the image).

As regards the type of actor (see Figure 2), institutional actors (38% of the nodes) clearly dominate the network for their position and visibility. However several clusters of associative actors (43%) can be identified: i.e. the cluster at the top left that includes associations focusing on folk music and, at the right, the cluster of the *Opera dei Pupi* associations. Clusters of individual actors (19%) are also visible at the margins of the image: i.e. the actors related to lace (*merletto*), *taranta* or *pizzica*. Looking closer, two main groups may be identified. In the centre, we find governing bodies that are promoting the ICH Convention at international, national and local level. On the margins and particularly on the left, we can recognize an equally noteworthy group of associations and individuals that strongly invested in ICH preservation by starting new projects or using the label ICH to give legitimacy to existing preservation initiatives.

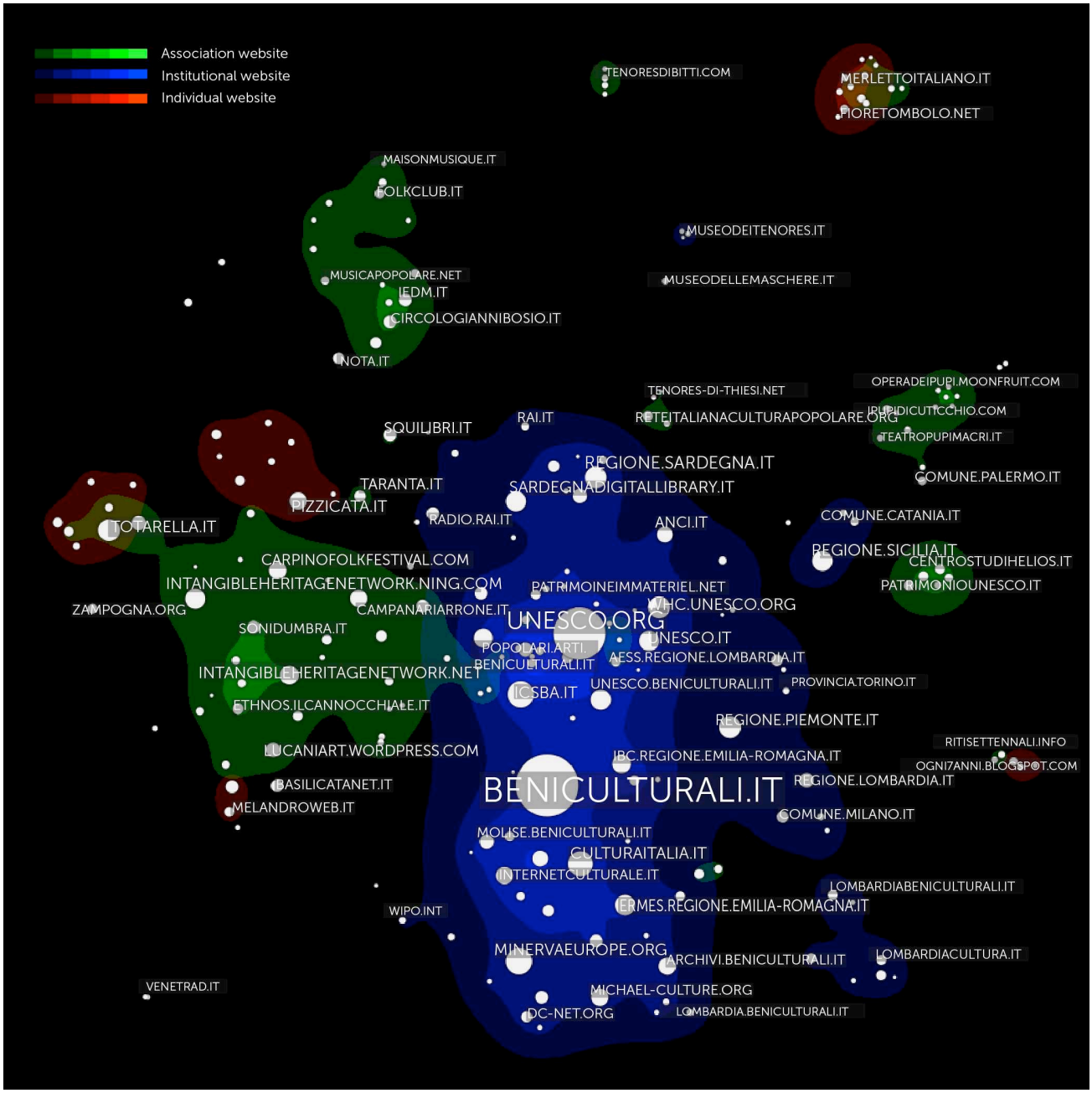


Figure 2. Heatmap of the Italian network of ICH websites (coloured by type)

The websites of the Ministry of Culture and of the UNESCO are by far the most visible nodes in the graph (the ones receiving the most of hyperlinks). The very central position of www.unesco.org (linked by national agencies, local governments, but also by independent projects of safeguard[13]) is particularly significant. Even if the ICH Convention was approved in 2003 and entered into force on 20 April 2006, Italy ratified it only in 2007 and the Italian government started very recently to organize ICH safeguard actions at national dimension. At the two first nominations rounds (2009 and 2010), Italy didn't submit any proposal[14] and, until now, there is no Italian item inscribed on the Unesco lists (except the items formerly proclaimed Masterpieces and incorporated to the ICH list in 2008). Nevertheless, the multitude of connections between Unesco.org and several Italian websites show the generalized interest toward the Convention.

Since 2003, several initiatives (emanating from private and public actors, *amateur* and professionals, associations and institutions, individuals and groups) started to talk about ICH. Beside the rare official declarations on institutional websites,[15] the label ICH appeared on numerous websites: from folk manifestations to ethnographic research, from craft production to oral cultures. As a consequence, web mapping allows representing effectively the unstable and fragmented scenario of the Italian ICH safeguard system, where the initial latency of national bodies favoured the emergence of various peripheral projects.

French ICH Web

The analysis of ICH in France started from the website of the National Commission for Unesco (www.unesco.fr), the website of the ethnology mission of the heritage direction (http://www.culture.gouv.fr/mpe/)[16], the institution in charge of the "Inventory of inventories of intangible cultural heritage" in France and the very recent portal *Patrimoine vivant de la France* (http://www.patrimoinevivantdelafrance.fr/) created by the Ministry of Culture to promote ICH at national dimension. Websites related to the ten French items[17] already inscribed in the Unesco lists have been also taken into account. The network consists of 264 nodes and 885 edges.

As regards the dimension of activity (see Figure 3), what emerges at a first glance is the gap between the quantity of local nodes (the green shapes on the heatmap) and the weight (measured as the number of incoming and outgoing links) of national actors. Although national nodes are only 30% (against 65% of local and 5% of international), they are clearly the most connected, not only as authorities (target of most incomings links) but also as hub (origin of most outgoing links - see for example www.patrimoinevivantdelafrance.fr).

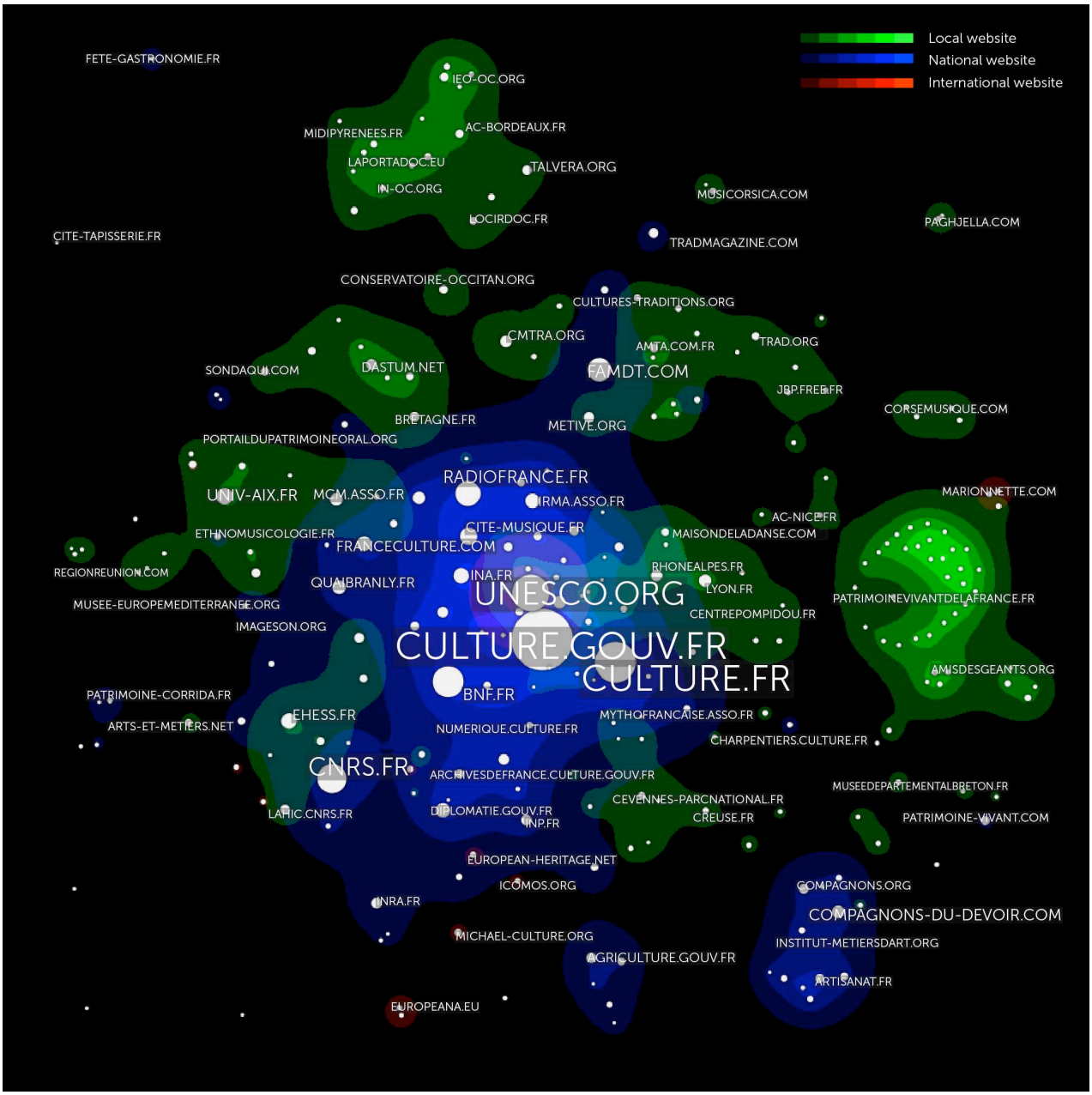


Figure 3. Heatmap of the French network of ICH websites (coloured by dimension)

In particular, the Ministry of Culture, with its institutional website (www.culture.gouv.fr) and its informational portal (www.culture.fr), is the undisputed centre of the network and is surrounded by several national branches with different territorial or thematic competency extending the Ministry action to the whole graph. The international website of Unesco (www.unesco.org), while remaining one of the authorities of the graph, does not seem to play a key role as in the Italian case: the relation between local and international actors is generally mediated by national institutions. Indeed, once ratified the Convention in 2006, the French Ministry of Culture was very active in the implementation through two types of initiatives: the construction of national inventories (and the identification of the existing inventories); and the preparation of nomination files to be submitted to Unesco. This means that numerous new projects (with new websites) started under the aegis of the Ministry and several existent projects lead by local institutions and associations were enclosed.

This centralized structure, typical of the French cultural system, has many effects on the French world of intangible heritage. First, there is a similarity between the arrangement of groups per dimension of actor (with the central group of national actors) and per type of actor (with the central group of institutions see Figure 4). Conversely, it is also important to notice that the identification of the groups on the margins of the network is quite difficult (except for the network generated by the portal *Patrimoine Vivant*, which cannot be considered a real cluster of actors, but simply a technological artefact[18]*)*. Both in the graph per dimension and per type, actors are positioned in relation with the centre rather than in relation to each other. The result is a structure where local associations and institutions are mainly related to the national level and individuals are dispersed all around.

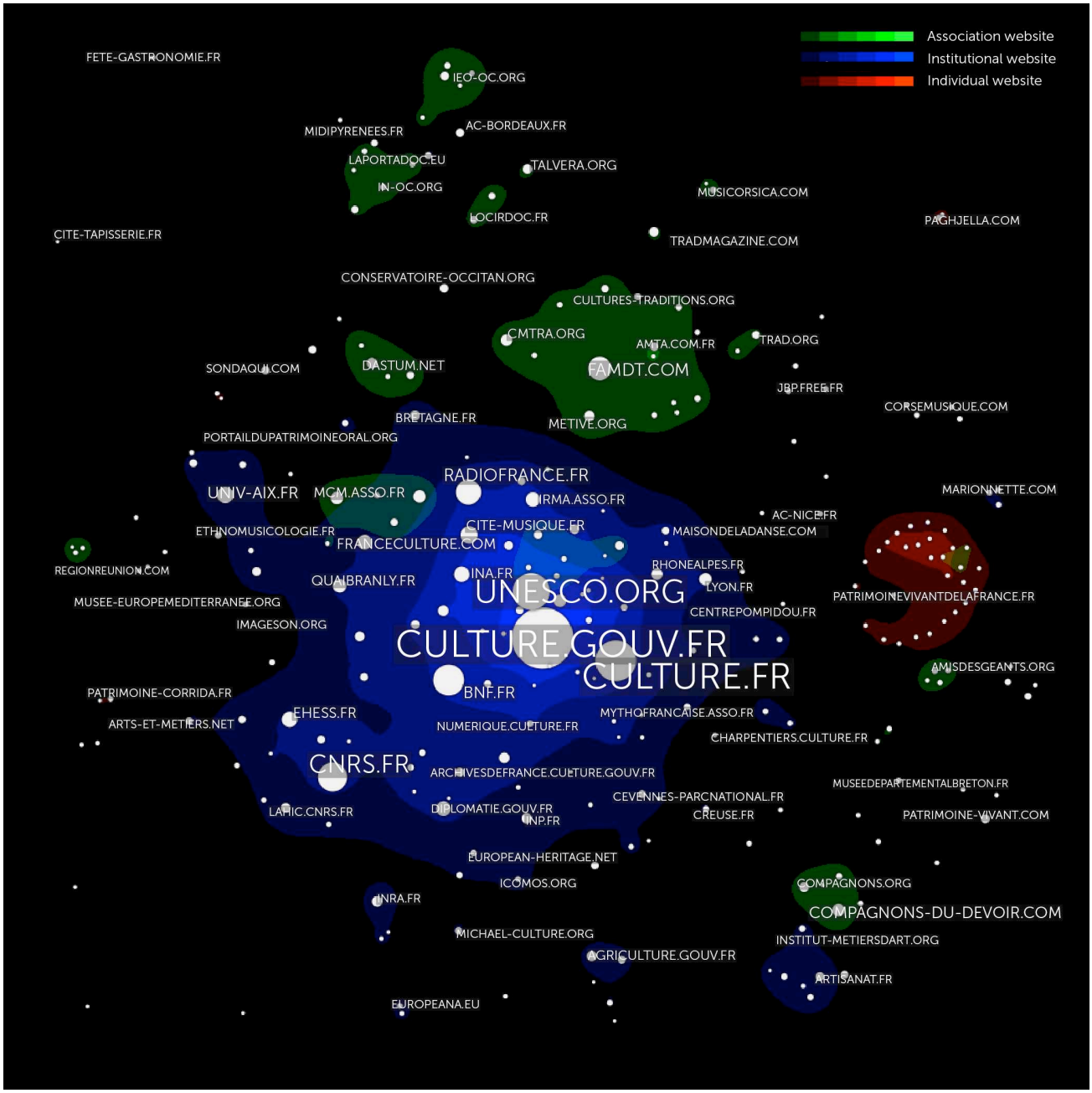


Figure 4. Heatmap of the French network of ICH websites (coloured by type)

Another interesting peculiarity of France is the importance assumed by the institutions more directly related to the Ministry, such as museums, libraries and archives (i.e. bnf.fr, archivesnationales.culture.gouv.fr, archivesdefrance.culture.gouv.fr, quaibranly.fr etc.). The presence and strength of this type of actor may reveal an approach to intangible heritage, more oriented to conservation, inventorying and communication than to "capacity-building" in the communities, as recommended by Unesco. Also the research and education institutions seem to be fairly influential in the French map (especially CRNS). Not only several research laboratories are involved in the safeguard and inventory activities, but also training schools (especially related handcraft) and education institutes (especially related to traditional music) are involved in the enhancement of the practices of heritage transmission.

Interesting insights can emerge also from the observation of groups by type of actor. As seen, institutions (45%) play the role of both authorities and hubs by guaranteeing the connection of the network and, on the other hand, associations (35%) and individuals (20%) are interconnected among each other with weak peripheral relations et constitute few thematic and geographic groups in graph. Among them, the few that show a densely connected texture are defined by the overlapping of two types of grouping, thematic and geographic. Possibly, groups such as the Occitan community (the green group on the top of the map per type), which do not only share a geographical location, but also an independent culture and language, may find in their cultural diversity the force to emancipate from the centre in the graph.

As a conclusion, what these maps make clear is that the label ICH has spread in the French web in an organized and controlled way, manly through the action of national institutions. If in the Italian network we recognized several kinds of group organizing themselves (not always coherently with the Unesco's rules and definitions), the French network appears more homogeneous. Although new websites related to ICH have appeared and the category of ICH has absorbed several existing websites thanks to the new inscriptions on the Unesco list (see the cluster of websites related to *Compagnonnage*[19] at the bottom of the graph), the network has grown around a unique nucleus, leaving little space for clusters and groups autonomous from the centre.

Swiss ICH Web

The analysis of ICH network in Switzerland started from the website of the National Commission for UNESCO (ww.unesco.ch), the website of the official national inventory (traditionvivantes.ch see below) and the website of CIOFF Switzerland (International Council of Organizations of Folklore Festivals and Folk Arts traditional), which created a directory of intangible heritage in Switzerland some years ago (www.cioff.ch).[20] The analysis of this network has been particularly complex because of the multilingual nature of the country. Different domain names proposing different linguistic versions of the same website have been aggregated in a unique node (see for example traditions-vivantes.fr, diversiteculturelle.fr etc.).

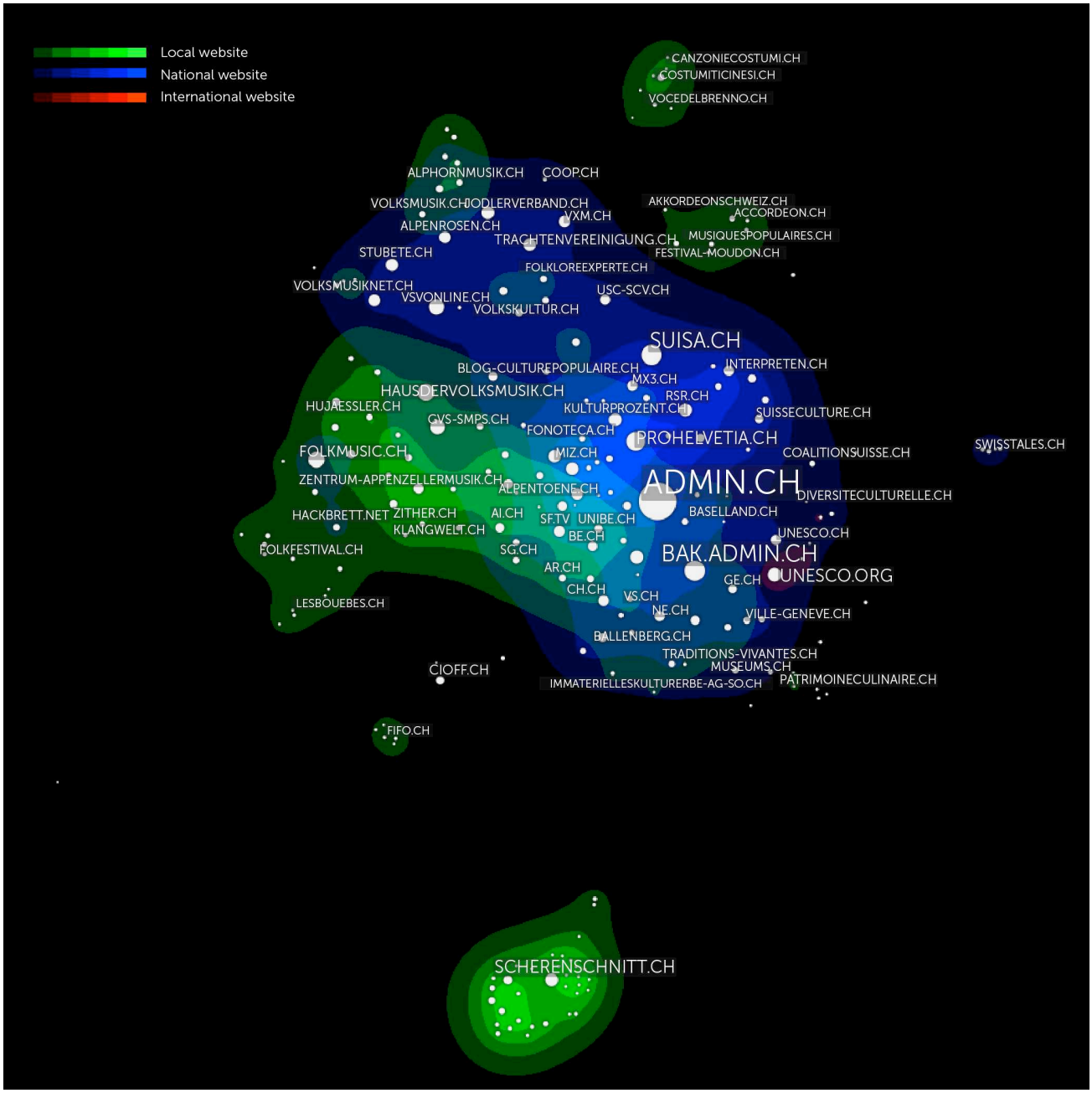


Figure 5. Heatmap of the Swiss network of ICH websites (coloured by dimension)

The network consists of 215 nodes and 1159 connections. The high density of connection in the graph makes it difficult to identify separated clusters, yet some interesting insights may be pointed out. As regards the dimension of actor (see Figure 5), what emerges very clearly is the marginal role of international actors (6%). Not only the international nodes are dispersed in the graph, but even the international website of Unesco is marginal compared to national and local nodes (at the bottom right of the graph). Conversely, the distribution of local nodes (62%) and national nodes (32%) is more balanced than in other countries. While it is possible to identify a core group of national institutions (around www.bak.admin.ch and www.admin.ch, the official sites of the Swiss Confederation), several national actors are also included in local groups and vice versa, generating a decentralized structure. As a result, in the dimension heatmap the blue area (national) and the green

area (local) show several overlapping areas. This phenomenon may derive from the cantons organization of Switzerland (see the overlapping area around the points be.ch of the canton of Bern, ar.ch of Appenzell Outer Rhodes ai.ch of Appenzell Inner Rhodes), but it is also evidence of a democratic network open to local actors (see the overlapping area of nodes related to folk music).

This openness is also confirmed by the distribution of nodes per type (see Figure 6) that is remarkably different from the other countries. First of all, even if, similarly to other countries, the Swiss network presents a central group of institutions (32%), associations (37,5%) and notably of individuals (30,5%, against the 19% in the Italian network and the 20% of the French network) are also very active.

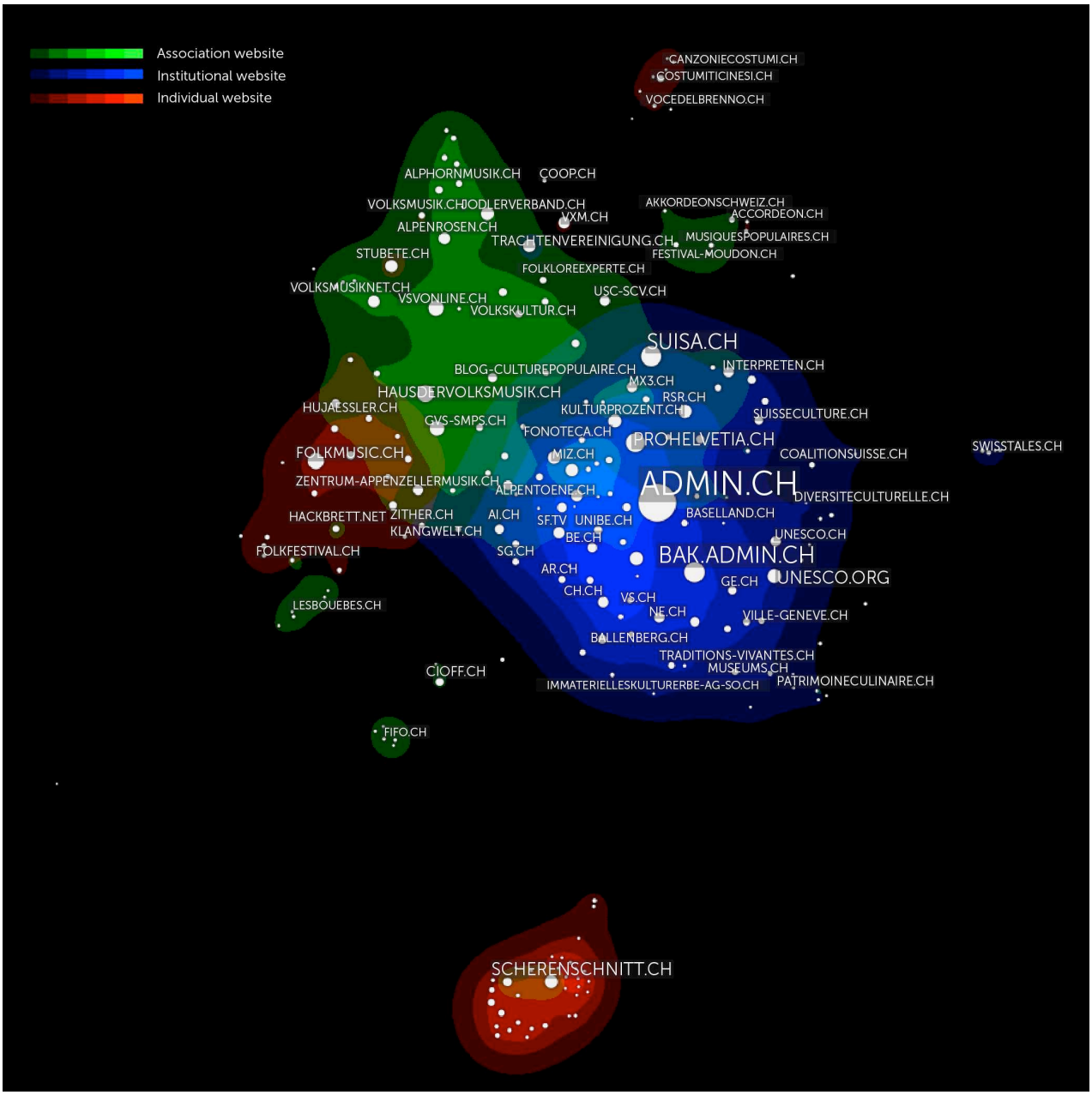


Figure 6. Heatmap of the Swiss network of ICH websites (coloured by type)

As revealed by the heatmap representation, the network shows a more balanced presence of various types (the three colours cover areas with similar size). Second, if nodes belonging to the same category tend to link each other, they also are connected with nodes of other categories. As a result, the coloured areas are clearly overlapping in the heatmap. Third, authorities are not only institutions (www.admin.ch, www.unesco.ch), but also associations (www.vsvonline.ch the Swiss association of folk music, www.hausdesvolksmusik.ch the House of Folk Music) and individuals (the blog folkmusic.ch). In particular, we can notice the weight of the website SUISA, the Cooperative Society of Music Authors and Publishers (www.suisa.ch). It is not only one of the most influential and central nodes of the network, but it is also one of the crossing points between local and national groups and between institutions and associations.

The distinctive overlapping of national and local actors is a key feature of the Swiss ICH system. Let's consider for example the case of the portal www.traditions-vivantes.fr (lebendige-traditionen.ch in German, tradizioni-viventi.it in Italian), the initiative of Swiss inventory recently launched (September 2010) by the Swiss Federal cultural office in collaboration with the National commission for Unesco. After the ratification of the Convention in 2008, the Swiss government decided to organize the preparation of national inventories and nomination files with a strictly democratic and decentralized procedure. Each canton has been charged of preparing its own list of items. Each regional government tried to involve the local communities by inviting the population to signal items they consider ICH. As a result, 389 propositions have been collected (and published on the website www.bak.admin.ch/traditionsvivantes). A national Committee will evaluate these proposals and draw the official inventory that will be used to select items to submit to Unesco lists (spring 2012).[21]

As a consequence of such procedure, the website www.traditions-vivantes.fr, which may have centralized all the regional inventories, is quite peripheral on the graph (at the bottom right). Its creation mirrored the existing scenario of oral cultures and traditional practices preservation rather than affecting it. Even more important, this inventorying approach sheds light on the distinctive structure of the Swiss network. On the one hand, as regards the distribution per dimension, the involvement of cantons in the inventory building favours the inclusion of national nodes in local networks and makes the distinction between groups less clear-cut. On the other hand, as regards the distribution per type, the inventory process explains the increasing importance of institutions in a preservation system until recently dominated by associations and individuals.[22]

Indeed, locally, the web mapping shows deeply interconnected groups representing vital communities active in preserving their heritage, including music (see the group of individuals around the blog folkmusik.ch at the left, the group of associations around the Swiss association of folk music at the top centre), traditional customs (see the cluster at the top) and handcraft (the cluster related to cutting around scherenschnitt.ch at the bottom). Sometimes, inside these groups, it is also possible to identify smaller clusters for specific type of musical tradition or of instrument (see for example the small cluster of nodes related to accordion at the top right or the cluster of nodes related to the jodler at the top left). This structure, however, does not cause dispersion of the network (as in the Italian case). This structure remains very clustered but also very dense thanks to the presence of national associations playing a key networking role both at national and local level.

Final remarks

In this paper we proposed a new methodology (web mapping) and new form of representation (heatmaps) to describe the networks of intangible cultural heritage in three different countries. We chose this approach because it seemed particularly suitable for comparative and multilingual analysis and we have not been disappointed by its results. Not only the analysis has provided empirical evidence of some well-known features of the analyzed preservation systems, but it also offered some interesting and unexpected observations.

As for the first type of observations, the analysis confirmed that national nodes and institutional nodes (particularly the overlapping of the two categories, that is to say national institutions) play the role of authorities of the networks, receiving most of the links and consequently being highly visible websites in the corpus. The Unesco Convention clearly entrust its implementation to States. It is not surprising, therefore, that the agencies to which States delegate this task (the Ministry of Culture in all three cases) end up being the central nodes guaranteeing the interconnection of the network. If national institutions occupy the centre of the networks, local and individual nodes tend to be at the margins of the graphs and local websites are often densely clusterized around specific cultural practices. Moreover, as it could be expected, the network structure of each country mirrors the main characteristics of its cultural system. For example, we can easily oppose the centralised system of France and the decentralised system of Switzerland.

Besides these predictable observations, our method also provides several original cues both on the specific national networks and on ICH global preservation system. First, web mapping helped us to investigate in depth the hyperlinking strategy of each country. While heatmaps helped us distinguishing zones with unequal density of connections, zooming in the web maps helped us to understand why connections are established. Thanks to the colour thresholds based on the density of connections, heatmaps allowed us to identify clusters and groups. Comparing the images, we could observe that the Italian network has several local groups autonomous from the centre, while France shows very few peripheral groups and Switzerland has a very clustered and dense structure that privileges big agglomerates where national and local nodes on the one hand and institutions, associations and individuals on the other hand, coexist and interact in the same cluster. As regards the reasons for establishing connections, the navigation of web maps allowed us to distinguish two main types of rationale that explain why nodes belong to specific groups. Some groups coalesce around a common thematic interest; others share the same geographic location. The analysis also allowed us to reveal some interesting cases, as the Occitan cluster in the French map, where both reason coexist. Moreover, throughout web maps, we could identify some exceptions such as the very dense area around patrimoinevivantdelapfrance.fr (Figure 7). In the case, this area doesn't correspond to an actual group or a cluster, but it is simply the effect of a hub-website with links toward several thematic related websites not interlinked among each other.

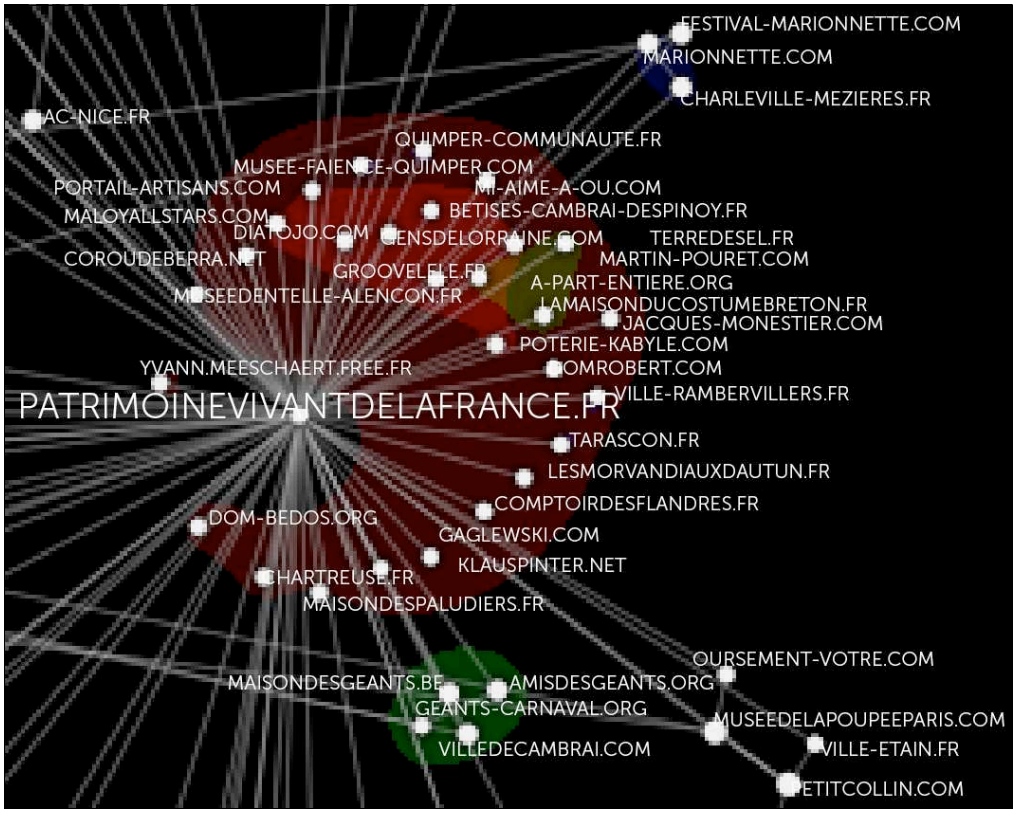


Figure 7. Zoom on the patrimoinevivantdelafrance.fr sub-network

Second, web mapping helped us to compare the weight of international bodies, especially UNESCO, in the different national systems. Graphs per dimension emphasize the different importance and role of the Unesco website (www.unesco.org). While in Italy there are two major international clusters and the node unesco.org is central and higly connected, in France and Swiss international nodes, and notably unesco.org, are less important than we expected. In the French graph, unesco.org is a visible node but it doesn't play a key role in the global texture. In Switzerland it is not even particularly visible.

Third, web mapping helped us to investigate the involvement of local communities: an issue that is attracting more and more attention of both policy-makers and scholars. Indeed, the graphs allow observing the participation of individuals, foremost heritage bearers, in the safeguard of ICH. Although websites of individuals and groups are a minority in all graph, all images highlighted some common trends. Individual nodes are generally not directly related to the authorities of the graph, they are related to local associations or to other individuals. Groups constituted by individuals are usually dense and share a thematic focus: often they represent non-professional and non-institutional safeguard initiatives supported by amateur blogs or web portals managed by informal groups of people. Despite their informal organisation, these groups represent dense and active web communities (in particular, see the Italian groups gathered around pizzica.it, totarella.it et merlettoitaliano.it and the Swiss groups gathered around the blog folkmusik.net and scherenschinnt.ch). Conversely, we have the case of institutional portals (such as the already mentioned French patrimoinevivant.fr) that assemble individuals who don't recognize themselves as groups (as shown by the lack of direct hyperlink connections). This disconnection between the

clusters of local bearers and the national institutions may derive from a bias of our methodology (the relations may just not be visible on the Web). Yet, the lack of connections may be explained also by a different interpretation of the ICH label. People that recognize themselves as bearers may not correspond to the interpretation of the State of the Convention or to the institutional priorities of preservation. If this is the case, our results would confirm the observation of several scholars that national institutions still find it difficult to involve communities in the implementation of the Convention.

Finally, the comparative analysis of ICH networks allowed us to highlight the importance of different actors in different countries. If in France the actors of the education sector are numerous and important, less so in Italy and Switzerland. Conversely, in Switzerland we noticed the importance of copyright institutions and associations, almost absent in the other countries.

To be sure, all these insights need to be confirmed by a more traditional ethnographic approach, but we believe that web maps have proven their amazing value as *exploratory tools*. To encourage readers to explore even further, interactive versions of the web maps discussed in the article are available on the website www.patrimoineimmateriel.net.

References

Adamic L and Glance N (2005) The Political Blogosphere and the 2004 U.S. Election: Divided They Blog. In: *Proceedings of the 3rd international workshop on Link discovery*, Chicago, Illinois, pp. 36-43. New York : ACM

Blake J (2008) UNESCO's 2003 Convention on Intangible Cultural Heritage: the implications of community involvement in 'safeguarding'.In Smith L and Akagawa N *Intangible Heritage*. New York: Routledge, pp. 45-73.

Gibson D, Kleinberg J, and Raghavan P (1998) Inferring Web communities from link topology. In: *Proceedings of the ninth ACM conference on Hypertext and hypermedia*: *links, objects, time and space---structure in hypermedia systems* (HYPERTEXT '98). ACM, New York, NY, USA, pp. 225-234.

Ginsberg J Mohebbi M H Patel R S Brammer L Smolinski M S and Brilliant L (2009) Detecting influenza epidemics using search engine query data. *Nature* 457(7232): 1012-4.

Bastian M, Heymann S and Jacomy M (2009) Gephi: An open source software for exploring and manipulating networks. In: *International AAAI Conference on Weblogs and Social Media,* pp. 361-362.

Kirshenblatt-Gimblett B (2004) Intangible Heritage and the Metacultural Production of Heritage. *Museum International* 221-222 : 53-66.

Kurin R (2004) Safeguarding Intangible Cultural Heritage in the 2003 UNESCO Convention: a critical appraisal. *Museum International* 56: 66–77.

Lazer D, Pentland A, Adamic L, Aral S, Barabasi A-L, Brewer D, Christakis N et al (2009). Computational social science. In: *Science* 323(5915): 721-3.

Munjeri D (2004) *Tangible and Intangible Heritage: from Difference to Convergence. Museum International* 221-222: 12-20.

Negroponte N (1996) *Being Digital*. New York: Vintage Books.

Rheingold H (2000) *The Virtual Community: Homesteading on the Electronic Frontier*. Cambridge Mass.: The MIT Press.

Rogers R (2004) *Information Politics on the Web*. Cambridge, Mass: MIT Press.

Rogers R (2009) *The End of the Virtual: Digital Methods*. Amsterdam: Amsterdam University Press.

Rogers R and Ben-David A (2008) The Palestinian–Israeli peace process and transnational issue networks: the complicated place of the Israeli NGO. *New Media & Society* 10(3): 497-528.

Severo M (2010) Intangible Cultural Heritage Webs. Comparing national networks through digital methods. In: *Annual meeting of SEG/SSE*, Bern.

Turkle S (1995) *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.

Van Zanten W (2004) Constructing new terminology for intangible cultural heritage. *Museum International* 221-222: 36-44.

Woolgar S (2002) *Virtual Society? technology, cyberbole, reality*. Oxford: Oxford University Press.

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[1] Initiated in 1973, when for the first time Bolivia asked for a protocol to protect folklore, the UNESCO reflection on intangible heritage was developed through numerous international meetings and not without lively controversies (for a summary of principal meetings see UNESCO website http://www.unesco.org/culture/ich/). The discrepancy between the English "intangible cultural heritage" and the French "patrimoine culturel immateriel" (both in the official Glossary) exemplifies the difficulty of reconciling opposing conceptions. The coexistence of the two terms is the result of a delicate compromise (Van Zanten, 2004).

[2] On the relation between the two Conventions see D. Munjeri (2004) and B. Kirshenblatt-Gimblett (2004).

[3] The development of digital methods is relatively recent and followed the diffusion of digital media. Three main phases can be distinguished in this development.

1. During the years of the advent of Internet, social scientists conceived electronic media as nothing more than new terrains for old methods. Notions such as "cyber-culture" (Negroponte, 1996), "virtual communities" (Rheingold, 2000), "online identities'" (Turkle, 1995) were therefore introduced to channel the novelty of new media within the tradition of social sciences.

2. Such enterprise, however, has soon been defeated by the speed at which digital technologies have infiltrated modernity. Electronic interactions have become so pervasive that they can no longer be conceived as a separate social space. This new approach animated, for example, the "Virtual Society?" (Woolgar, 2002) programme, which highlighted the multitude of ways in which online and offline interactions are interlocked.

3. Finally, scholars such as Richard Rogers (2004 and 2009) advanced the idea that digital interactions are now so universally weaved in the fabric of collective existence that their study can provide a new way to investigate all type of social phenomena.

[4] http://www.google.org/flutrends (accessed 27 January 2012).

[5]See especially the work done by the Digital Methods Initiative led by Richard Rogers at the University of Amsterdam (http://www.digitalmethods.net/).

[6] See, for example, the work of Adamic and Glance (2005) on the US political blogosphere and the work of Rogers and Ben-David (2008) on the Palestinian blogosphere.

[7] See http://www.issuecrawler.net/ (accessed 27 January 2012).

[8] See http://webatlas.fr/wp/navicrawler/ (accessed 27 January 2012).

[9] In some cases, the distinction between "national" and "local" may be very tricky, as for example the regional bodies in Switzerland that, even if they act at regional level, they may be considered as national administrations. In this research, we considered as national only bodies at the country's level.

[10] See http://gephi.org/ (accessed 27 January 2012) and Bastian, Heymann, & Jacomy, 2009.

[11] More precisely: the heat-maps are constructed by overlapping three density heat-maps of three different colors: blue for national points or institutions, red for international points or individuals, green for local points or associations. The color of each point of the image is calculated according to the heat radiating form all nodes (each node radiates according to an exponential decay whose half-life is proportional to its in-degree in the graph) computed three times for

blue, red and green. Notice that, although the three heat maps are computed separately, their luminosity is normalized according to the same maximum density (references representing the largest share of the nodes in the network, the red heat map reach lighter levels). For each heat map colors are then aggregated in up to 9 thresholds of equidistant luminosity. Since the colors employed are pure (0000FF for blue, FF0000 for red; 00FF00 for green) their luminosity adds up mathematically in the RGB image: e.g. light violet areas are dense in red and blue nodes; white are dense in nodes of the three types.

[12] The *Canto a tenore, Sardinian Pastoral Songs*; the *Opera dei Pupi, Sicilian Puppet Theatre* and the Mediterranean Diet.

[13] See for example the *Comitato per la promozione del patrimonio immateriale* (www.ichnet.net), an ONG constituted by associations, groups and individuals inspiring their activities to Unesco principles.

[14] Only exception is the collective candidature of "The Mediterranean diet" that was presented with Spain, Greece and Morocco, and was inscribed on the Unesco list. It is interesting to notice that this candidature was supported by the Ministry of agriculture rather than by the cultural Italian bodies.

[15] Today, in Italy, there is no institutional website clearly dedicated to the ICH Convention and to national inventories as happens in other countries. Only very recently, the website of the newborn *Istituto Centrale per la Demoetnoantropologia* (http://www.popolari.arti.beniculturali.it/) publishes a official project of inventory.

[16] Unfortunately outgoing links on this site have been traced partially because of some technical issues of the crawler.

[17] See http://www.unesco.org/culture/ich/index.php?lg=en&pg=00311&cp=FR (accessed 27 January 2012).

[18] This interconnected group of nodes clearly visible on the right of map doesn't represent a local cluster. It is rather a technological artifact: a group of links generated by a big national web portal.

[19] The *Compagnonnage, network for on-the-job transmission of knowledge and identities* has been inscribed on the Unesco representative list in 2010.

[20] This list was created before the official ratification of the State to the 2003 Convention. This list, that is meant to collect the ICH bearers rather than the items, was built through a very participatory method: everyone can add his name on the list. Outgoing links from this website have been drawn only partially because of technical issues (the list is organized as a pdf file so it couldn't be scanned by the crawler).

[21] Indeed, Switzerland has no item inscribed on the Unesco lists yet.

[22] We carried out a previous web mapping study in July 2010 that revealed a quite different structure (Severo, 2010).