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The power of local networking: Bologna's music scene as a creative community, 1978–1992

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**The Power of Local Networking. Bologna's Music Scene as a Creative Community: 1978-1992**

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## Abstract

Musicians have always established a symbiotic relationship with the urban environments in which they live and work, with a tendency to aggregate into place-based relational networks. Bologna provides a clear example of this phenomenon to the point that the evolution of its musical scene can be characterized in terms of its relational dynamics. We study a network of artists whose main common trait has been the deliberate choice of coming or returning to live and work in Bologna, locally producing their records in the period 1978-1992, a sort of 'creative golden age' in the recent musical history of the city. We use Social Network Analysis to reconstruct the structure of the relationships that have bound together the Bologna's singers-songwriters scene in its relationship with the urban context. Making use of the Newman Community Detection algorithm (Newman, 2006), we find a dense, vital and collaborative scene, organized around 4 different, musician-centered communities, that are permeable to collaborations with each other. This vital system of related creative communities has been the driving force of Bologna's salience in the national musical scene in the 80s and early 90s, and its analysis provides insights for the design of cultural policies aimed at leveraging the potential of urban creative scenes.

## Keywords:

Music scenes; Social Network Analysis; Cultural industries and local development; Bologna; Creative communities.

## 1. Introduction

The music industry, and the urban cultures that energize it, have been extensively studied from different disciplinary angles (Throsby, 2002; Power and Hallencreutz, 2007; Brown et al., 2010, van Klyton, 2015). One of the strongest regularities found across such interdisciplinary literature is the existence of a tight relationship between music-centered creative communities and the urban contexts in which they are embedded, in view of the musicians' tendency to aggregate into dense, place-based relational networks (Bennett and Peterson, 2004; Florida and Jackson, 2010; Florida et al., 2010; Bader and Scharenberg, 2010; Cummins-Russell and Rantisi, 2012; Lange and Bürkner, 2013).

The spatial dimension of the complex processes of music production, performance and of music-related socio-relational exchange has been captured in the musicological literature by means of the notion of music scenes (Peterson and Bennett, 2004; Bennett, 2004). Music scenes may have in principle a local, trans-local or virtual character. Locality establishes the most ingrained relationship with a specific place, building on its situated fabric of social exchanges and identitarian cultural codes. Trans-locality plays instead with the variable geometry of spatialities that is created by the physical encounters and temporary associations related to music events such as festivals and big concerts, which tend to recur over time and space, thereby creating specific social exchanges and cultural codes that, although being situated, are also the contingent outcome of a complex, emergent synthesis of the many different localities represented in the vast, diverse audience pool that re-creates them from time to time. Finally, the virtual character of a music scene reveals yet another form of spatiality which defines itself in a placeless, virtual space but nevertheless maintains its articulate, situated grammar of social exchange and shared, idiosyncratic cultural coding.

There are many factors that determine the attractiveness and the vibrancy of a given urban milieu that are a necessary support to the creation of a local scene. Nevertheless, there is no simple formula that can compactly predict whether or not a certain city will become or stay culturally vibrant at a given time in the future, and eventually the reasons behind successes and failures in this regard may

remain relatively elusive.

The Italian city of Bologna provides an interesting example of a local music scene. We analyze it during a period (1978-1992) of acquired prominence at the national level in terms of musical authorship ad production. Bologna was (and still is) a medium-sized city whose local specialization model was not significantly centered upon cultural production, and cultural industry in particular. At the same time, its geographical proximity to major cultural industry centers like Milan, or to major heritage cities like Florence, has traditionally been an obstacle to its national positioning as a major cultural hub. As we will show, the peculiarity of Bologna in the period under study was mainly linked to the dense relational structure that weaved together small but active communities of musicians, positioning it at the national level as a thriving local musical scene, powerfully defined by the intensity and quality of the social exchanges that kept such communities together, and yet each one characterized by specific distinctive traits. Favorable political and social conditions nourished a juvenile, inclusive, multi-ethnic environment, establishing the city as a recognized capital of quality of life and easy living. In the period under exam, Bologna was also one of the key hubs of Italy's alternative culture, having been one of the main theaters of the 1977 student protests, also due to the presence of one of Italy's largest universities. This peculiar socio-cultural environment set the stage for an urban laboratory of vital, grassroots cultural experimentation supported by non-invasive public policies (Bloomfield, 1993). Starting from the 90s, a new cycle of urban regeneration policies started, focusing on the inner city center, gradually powering down such grassroots community ties, and inducing an increasing reurbanization and social control of the urban space (Buzar et al, 2007; Bergamaschi et al, 2014). The new cycle was informed by the ambition of engineering the city's cultural vibrancy through a form of top-down institutional control. This brought to the downsizing and eventually to the closures of some of Bologna's most dynamic, independent cultural spaces, to curb their role of social hubs of antagonist urban culture (Felicori, 2001), while at the same time pursuing the ambition of 'absorbing' their creative strength (Calafati, 2015), to re-enact it in more domesticated, institutionally compliant forms (Aiello, 2011).

However, artificially re-creating the conditions for cultural vibrancy is often a self-defeating strategy. Also in the case of Bologna, the city's profile in the national music (and more generally, cultural) scene has been gradually eroded ever since, paving the way to a long-term cycle of relative cultural stagnation. The 'cultural engineering' effort undertaken in the nineties continued in the next decade, and culminated with Bologna's designation as one of the eight European Capitals of Culture of the year 2000. However, this retrospectively turned out to be the city's swan song as a major national cultural stage, and the legacy of the EU Capital of Culture has been controversial in turn (Zan et al., 2011).

Developing a detailed causal explanation of the gradual cultural involution of Bologna is beyond the scope of the present paper. Here, we are rather interested in understanding how the logic of social exchange of the core creative group of the music scene in our period of reference has contributed to define the latter, and how the threats to the cohesiveness of such core group can be seen as a key driver for the eventual dissolution of the music scene itself. The tight temporal correspondence between the early phase of the dismantling of the core group (as many leading personalities began to leave the city as their stable professional base) and the start of the new phase of 'institutionalization' of the city's creative environment in the context of a large scale, neo-liberal re-urbanization, invites to think of the latter as a threat factor in the above defined sense. Once Bologna has started to lose its flavor of capital of independent culture, becoming less hospitable for riotous yet highly creative independent spaces, the reasons to prefer it as a creative home base, as compared to larger cities with much bigger cultural industries such as Milan, basically faded.

The use of Social Network Analysis (SNA) tools is especially indicated to analyze a case study like this, allowing us to flesh out a precise characterization of the social dimension of the Bolognese singer-songwriter scene, and to reconstruct the structure of the relationships between local artists. Building from SNA's basic analytical tools and a preliminary core-periphery approach, we apply the Newman Community Detection algorithm (Newman, 2006), which to our knowledge has never been used so far in the analysis of the core creative group of cultural scenes. By means of SNA, we

show how such relational networks have shaped Bologna's cultural landscape during the period of analysis. Socio-political movements have been widely studied from a social network perspective (Diani, 2013; Krinsky and Crossley, 2014). However, interest in comparable (and often intertwined) socio-cultural processes of creation and innovation is more recent (e.g. Millward et al., 2017), and the literature is still in an early build-up phase. In the present paper, we aim at contributing to this emerging strand of research, while at the same time pointing attention toward the structure of the relational exchange within the core creative group as a key factor of permanence of the vitality of the cultural (music) scene.

The structure of the remainder of the paper is the following. In section 2, we present a brief review of the relevant literature. In section 3, we describe the context of the Bologna case study. In section 4, we introduce the methodology and the main results. Finally, section 5 discusses the results and section 6 concludes.

## 2. Literature Review

The link between creative clusters and the urban context has been extensively studied in various disciplines. The social conditions for creativity have been examined by several authors, such as, to limit ourselves to a few recent contributions, Amabile and Pillemer (2012), Csikszentmihalyi (2014), Stokes (2014). A consensus point that emerges from this literature is the capacity of aesthetic and epistemic communities to establish significant relations with wider social forces, by providing them, through inspiration and shared ingenuity, with a powerful imaginary while at the same time being responsive to the current socio-economic and political trends. The relationships between artists and the scenes they generated have been the subject of a multitude of studies conducted from different disciplinary angles. The following review, organized by thematic lines, briefly covers some of the most relevant for our research.

## 2.1 From community to scene

Local communities are quintessentially tied to a place, which is a carrier of distinctive environmental features that co-evolve with the community itself (Centola et al., 2007) and concur to the definition of key local assets such as individual and group reputation, respect and authenticity (Solomon, 2005; Kim and Sung, 2019). The community, in turn, is a social constituency bound together by spatially proximate, recurrent, meaningful social relations, and by a shared sense of collective agency on a number of common goals (Ryu et al., 2018). The place the community insists upon may be a small town, a village or a collection of small villages, but also a neighborhood of a city. Each community has therefore its own characteristics, its distinctive stipulations of meaning, its local culture. Such highly idiosyncratic factors may be imitated, but never entirely replicated elsewhere (Molotch, 1996). Molotch illustrates the importance of the relation between 'place' and 'product', and in particular how cultural productions are a result of the environment in which they are embedded. The association between place and product, moreover, tends to be self-reinforcing over time, because their mutual interdependence leads to a sustained process of constant re-discovery and re-invention of the local cultural and social heritage, fueled by a local dynamics of situated collective creation (Scott, 2010). This is the driving force behind local music scenes (Bennett and Peterson, 2004), and is not limited to the organizational consequences of the spatial clustering of creative talents, but also relates to the social constituency that supports it (Futrell et al., 2006; Crossley, 2009), reflecting the artists' tendency to organize around medium-specific clusters (Shaw, 2013) in search of inspiration, peer learning and apprenticeship (Cornfield, 2015). At the same time, the social constituency dimension highlights aspects such as the dynamic, open-ended hybridization of values and styles of life, which defines the specific 'chemistry' of a local scene versus another. This emphasis on the looser 'style of life' notion (as opposed to the tighter 'way of life' one) distinguishes the scene from the creative or cultural milieu, which tends to be less culturally fluid, and more focused on the preservation of local characteristics from outside influences and contaminations (Silver and Clark, 2015).

The concept of scene has been widely studied in musicology where it is defined as "[...] a cultural space in which a range of musical practices coexist interacting with each other within a variety of music processes of differentiation, and according to widely varying trajectories of change and cross-fertilization" (Straw, 1997, p. 469), drawn from the Latin notion of "scena" and the Greek "skene" as a strong ability to catalyze alliances to redraw social boundaries and to generate collectivities (Anderson, 1991). In the sociological literature, scenes are generally discussed as a substitute of community, as an alternative concept where the idea of bonding is expressed through a sense of situated belonging, associated for a long time to cultural movements (Bennett and Peterson, 2004; Grazian, 2004). But the scene changes not only as a function of the physical space in which it emerges, but also of the level of legitimacy that is attributed to it. Its replicability and the possibility of giving life to other movements or of extinguishing itself depends on the characteristics of the host ecosystem. Silver and Clark (2015) systematized this approach by providing indicators to measure the size (and depth) of the scene and its impact on the ecosystem. The importance of the scene characterizes its symbolic meaning, defined as legitimacy (right vs. wrong way to live); theatricality (an attractive way of seeing and being seen by others); and authenticity (a real or genuine identity).

In the musical sphere, the notion of scene becomes a form of collective association and a means through which individuals with different relationships to a specific music genre, produced in a specific place, articulate a sense of collective identity and belonging (Marcus, 2004). The concept of a music scene has however gradually evolved, as already remarked, into conceptualizing a local, trans-local and virtual socio-cultural phenomenon, with the emphasis moving away from physical coexistence and contiguity of artists and community members, to move toward an idea of collective artistic reaction to the *status quo*, which focuses on style and its forms of aesthetic expression, and identifies with a specific communitarian dimension and discourse (Straw, 1991; Kruse, 1993; Shank, 1994; Driver, 2011).

## 2.2 From scene to geo-economic agglomerations

For Florida and Jackson (2010), a scene can be thought of as a geographic location that brings together musical and business talent (artists, producers, engineers, industry executives, audiences) across social networks and physical space (neighborhoods, recording studios, bars, clubs, and live music venues).

The notion of scene as articulated in this stream of literature has therefore a conspicuous geographical dimension. Whereas popular music (pop and rock) has been the subject of substantial geographical research (Connell and Gibson, 2003; Wood and Smith, 2004; Krims, 2007; Wood et al., 2007), authors have paid less attention to the economic geography of music (Seman, 2015) and to the economic rationale of common locational choices (Cummins-Russell and Rantisi, 2012), which obviously tend to favor relatively large cities. Along the same lines, Florida's (2002) creative class paradigm tends to emphasize the prominent role of large, attractive cities that can provide a particularly friendly environment for creative professionals, and such implications are further articulated with specific reference to the music industry (Florida and Jackson, 2010; Florida et al., 2010). Large, attractive cities may rely upon a richer (symbolic) knowledge base, and in particular upon their localized tacit knowledge, may leverage upon stronger local buzz (i.e., non-deliberate knowledge and information sharing), and richer opportunities for face-to-face communication among a diverse pool of local players (Silver and Clark, 2013). Looking at the music industry as a knowledge community helps to appreciate the prominent role of the above factors as a key driver of local competitiveness (Cummins-Russell and Rantisi, 2012; Klein, 2011). The locational factors and the local economies that favor the agglomeration of music production follow therefore a similar logic to the one that characterizes traditional manufacturing industries (Belussi and Sedita, 2008), but possibly with an even stronger emphasis on the role of the urban dimension (Power and Hallencreutz, 2002; Power, 2003). On the other hand, the inner differentiation of the music industry into a realm of different, often situated production spheres, should also be acknowledged (Williamson and Cloonan, 2007), as well as the role that relatively marginal subcultural scenes, far

from the industry mainstream, can play in defining and launching successful entrepreneurial models in the music sphere (Drakopoulou Dodd, 2014), and more generally in creative production.

2.3 From agglomeration to urban hubs

A large body of research has documented the rise of music scenes in multiethnic crossroads locations, so it might be expected that musicians cluster around areas of ethnic and cultural diversity (Hyder, 2017). The importance of the relational dimension in creative business and its relationship with agglomeration is also widely recognized across the literature. Alfken et al. (2015) note that spatial agglomeration in cultural industries benefits from the physical concentration of cultural producers, agents, gatekeepers and other market actors due to the strong relational, face-to-face component of creative businesses. Scott (2008) also remarks that dense agglomerations of creative professionals are a hallmark of successful creative hubs. Lorenzen and Frederiksen (2007) explore the link between cultural innovation and the concentration of outstanding creative talent in urban settings, whereas Currid (2007) emphasizes the link between the relational and innovative dimensions in a major global cultural hub such as New York. Agglomeration economies in the cultural and creative fields have important developmental impacts. Markusen (2004) highlights the role of cultural and creative production as a factor of distinction for cities in the context of global competition for talent and resources. Lloyd and Clark (2001) emphasize how the model of the city as an "entertainment machine" where people have abundant opportunity of access to unique artistic and cultural experiences and goods may become a key driver of local development.

We have already emphasized the existence of a deep link between music production and its urban environment, which not only characterizes local music production scenes, but also becomes a key heritage asset that defines the city's identity (Brandellero and Janssen, 2014; Cohen, 2013), or actively contributes to the identity building process itself (Hudson, 2006). According to Kloosterman (2005), music genres are embedded in places. Kloosterman labels this process the "virtuous circle" of a city making music, and music making a city, and describes how cities with a vibrant music scene naturally develop a concentration of talented musicians. Examples of

traditionally spatialized genres include country music, heavily concentrated in Nashville (Kloosterman, 2005), grunge in Seattle (Negus, 1996), Dixieland jazz in New Orleans (Turley, 1995), and Motown's R&B in Detroit (Florida et al., 2010), to make a few obvious examples. This identification between cities and musical genres has important implications in terms of social cohesion. The proximity dimension may make local communities more cohesive by strengthening social norms and values, trust and reciprocity ties (Antonelli, 2000), favoring shared visions and collective goals, and contributing to local social and knowledge capital (Bolino et al., 2002; Nahapiet et al., 1998). Music may thus become a powerful social platform where shared musical experiences and practices contribute to coalesce place-specific forms of social capital, but also norms and values, and possibly even trust and pro-sociality (Langston, 2011; Welch et al., 2014).

The communitarian dimension of music goes beyond the logic of spatial proximity per se, becoming a hallmark of a common emotional imaginary and of a place-mediated conception of good life, as well as a lens through which local socio-cultural histories can be singled out and understood (Bennett 2002, 2009). Such music-mediated place identity can also assume a marked generational connotation in terms of an emotional counterpoint to shared life events for certain cohorts (van Dijck, 2006). While providing an emotional timeline, music also draws out an emotional mapping of places, that is not only resonating with residents and insiders, but may also become a template for the explorations of visitors (Brandellero and Janssen, 2014). Music, including its most popular forms, is therefore both a conspicuous form of intangible heritage (Bennett and Rogers, 2016), and a source of community feelings and bonds (Langston and Barrett, 2008).

Music clusters and music industry have been often studied as agglomerations of record labels and associated enterprises (Scott, 1999; Watson et al., 2009) but rarely as a network of bands and artists, with the notable exception of Nick Crossley's (2008, 2009, 2014) work on the punk and post-punk scenes. On the other hand, the importance of networking for local music production has been widely acknowledged. For instance, Sedita (2008) shows how, even in the case of temporary,

project-based music organizations, the overarching local relational networks are crucial for organizational sustainability.

For independent musicians who operate outside the industrial sphere, smaller locations may remain attractive due to more affordable living costs and rents. Braunerhjelm (2009) points out that relatively smaller cities may also have significant advantages in terms of social connectivity, as everybody knows everybody else, and this may be important when professionals hold multiple roles and positions within the cluster, and are likely to cooperate on a regular basis. On the other hand, since a minimal critical mass is still needed to profit from significant scale and agglomeration economies, it seems that medium-sized cities might have some form of competitive advantage in developing and sustaining creative industry clusters (Kepsu and Vaattovaara, 2008). The city of Bologna, a mid-sized city which has been able to endogenously generate not only a vibrant music scene but also, as a consequence, a significant music industry cluster in a relatively short time, is therefore an interesting case study in this regard.

## 3. Bologna: the Context

### 3.1 Key facts

For some decades, Bologna has been generally considered one of the most attractive cities in Italy. This has been due to a country-wide recognition of its juvenile energy drive, ensured by its University (the oldest in Europe, founded in 1088 AD), its 'human' size and density (140.86 km², 2783.1 inhabitants/km², 392,027 as of 30-10-2019), of its high level of quality of life, but also of its 'laidback' social environment, much more permissive as to the pursuit of different styles of life than the Italian standard of the time. The period chosen for this analysis is generally acknowledged as a peak in Bologna's creative effervescence, after a long phase of political and social turmoil at the national level (Bifo, 2008).

Besides Rome and Milan, which are also the capitals of the Italian cultural and creative industry, Italy's quintessential 'musical cities' are Naples, Genoa, and Bologna (with Turin as a later

addition). In none of these cities (except partially for Turin) we find at the time a strong local cultural industry with the associated local externalities. The social atmosphere of Bologna during the 80s was essentially that of an enlarged village: a 'walking distance' city, but not claustrophobic; populated just enough to guarantee one's own space and privacy, but also to allow most people to know each other at least visually (Papa, 2019). In the 70s, Bologna was a sought-after destination for many young people. As mentioned before, the university was strongly appealing to potential creative talents and professionals. Bologna was moreover considered an oasis of peace and tranquility by artists who were already accomplished and keen to find a refuge in relatively less hyped places than Italy's main cities and their intrusive media. No fans to worry about, few paparazzi. In this city, artists found the calm and warmth of a made-to-measure community, and the opportunity to work quietly, away from the hustle and bustle of the metropolis (Rubini and Tinti, 2009).

Between 1978 and 1992, music production – and in particular the reference music labels and studios – were concentrated between Rome and Milan. Despite its lack of major labels or music production companies, however, Bologna came to be nationally recognized as a key music creation hub (Sociologicamente, 2018), and the fact that it was ideally mid-way between the two national capitals also helped to put it on the map of the music industry. The cultural decline of this city that started in the middle of the 90's has been going on, slowly but steadily, until today. Whether the city's decline has been a consequence of the end of the previous cycle of creative effervescence is an open question. The steady increase in economic affluence (and the ensuing changes in the residential socio-economic demographics of several neighborhoods), together with the growing institutionalization of urban cultural policies seem however to have jointly conjured toward an impoverishment of the typically anti-bourgeois independent local culture that was the real driver of the city's creative flourishing. Ironically, such a decline has been marked by a growing availability of purposefully (but also, alas, prescriptively) designed public spaces for creativity. The issue, unfortunately, was not where, but why and how to create.

3.2 Music Environment

As far as the Bologna cultural scene in the period under study is concerned, a key contextual factor that favored the blossoming of local creativity was the presence and impact of two educational institutions: the Fine Arts Academy, and the DAMS graduation major at the University of Bologna. DAMS, an acronym for *Discipline delle arti, della musica e dello spettacolo* (Arts, Music and Performing Arts), launched in 1971, was the first experiment in academia of an entire university degree course focused on forming professional profiles in areas such as entertainment, music, and the arts in general, and had a significant impact not only on Bologna's cultural environment, but on the national cultural sphere as a whole. The Art Academy and DAMS, more than the prestigious, local Music School (*Conservatorio*), mostly devoted to classical music education, exerted a key influence also on the local music scene. The music scene started gaining momentum in the mid-70s, so that when in 1976 the Fonoprint studio opened, it quickly became the reference venue of the city's emerging music scene. In the *Bolognese* poorly-endowed music production context, the availability of a state-of-the-art studio provided a place for the centralization, monitoring and channeling of creativity (Toynbee, 2000). Being the city's only professional recording facility, Fonoprint also turned into a place of aggregation and creation, gradually achieving the status of a "cultural space" (Connell and Gibson, 2003), a pivotal player in the local system, and therefore a nexus of social networking among all sorts of artists, professionals and businessmen of the local music scene. Fonoprint became the place where several of the most successful albums of the time got ideated, developed and recorded. As an eloquent sign of the city's cultural institutionalization turn, the studio has been recently transformed into a Museum of Song Music, officially supported by the City of Bologna (Bertelli, 2019).

Another key musical player of Bologna's music scene in these years was Harpo's Bazar (later Italian Records), starting in 1979 as a co-op involving different personalities, all of whom former DAMS students with a strong relationship with the city's political movement that fueled the 1977

riots. If Fonoprint was mainly addressing the commercial pop scene, Italian Records was connected to the local alternative culture. They were the organizers of *Bologna Rock* (1979), an event that promoted the city's emerging alternative music scene (Augelli, 2019). Such event was crucial in positioning Bologna as the capital of alternative music in Italy, and more specifically as the nation's rock capital. As for Fonoprint, the impact of Italian Records on the city's creative vibrancy was due to its connector role among all the main personalities of the local rock scene, contributing to the maintenance of a rich, stimulating creative atmosphere. Another key ingredient of Bologna's alternative music scene have been the *radio libere* (free radios) (Cordoni et al., 2006), which affirmed themselves as the fundamental channels of Italy's alternative culture and with their bold, uncompromising programming attracted to Bologna some of the best creative talents and intellects of the Italian alternative culture scene (Briziarelli, 2016), and of the musical one especially. However, quite interestingly, both sides of Bologna's music scene, although ideologically distant from one another, equally contributed in establishing the city as an emergent national hub of music production during the 80s and the early 90s, that is, our period of investigation. However, more surprisingly, these two sides have always maintained an active dialogue and have built upon a common background of independent grassroots culture, often sharing common creative role models. Tellingly, the moment that symbolically marks the beginning of the ascending cycle of Bologna's music scene is generally identified with the return in Bologna in 1974 of Francesco Guccini. A highly reputed figure in the independent culture scene, Guccini had previously left Bologna to live in Rome, where he recorded for the EMI record company. His return to the hometown retrospectively functioned as a call to other musicians, with very different backgrounds and ideological orientations, to return home themselves – or to make of Bologna their new home.

**4. Data, Methods and Analysis**

As remarked by Ter Wal and Boschma (2009), Social Network Analysis is a key tool for the analysis of the local structure of production clusters, including cultural ones, not only in static terms, but also dynamically. Two key observations can be gathered in this regard from the literature on social networks. First, a social network with a short average length (the average number of nodes between any two agents of the network) is marked by a high level of social trust (social capital) and is good for the transmission of new practices, as its members can easily connect to each other and establish close relationships. Second, a social network with short lengths and a high clustering degree (density of interconnection) could prevent the entrance of new agents, due to its relational compactness which would make it difficult for an outsider to walk in, with the risk of low quality and redundancy of information flows, and lack of innovation due to an excessive focus upon the maintenance of local relationships and consensus (Koka and Prescott, 2002; Inkpen and Tsang 2005). The net effects on the viability of the network are therefore ambiguous: negative e.g. in terms of excessive bonding vs. positive e.g. in terms of trust making (Rost 2011; Zhang and Wu 2013). According to previous studies (Belussi and Sedita, 2008; Lorenzen and Täube, 2008), cultural industries seem to be characterized by short-length networks and high clustering degree, i.e. they are environments shaped by direct relationships and a relative entry barrier for non-insiders, and therefore sensitive to the balance between the positive vs. negative effects mentioned above.

It is interesting to check what are the structural features of the relational networks linking together the main actors of the Bologna music scene during the time of investigation, and to inquire to what extent they conform to what should be expected from a local cultural and creative industry cluster. To this purpose, we have conducted an extensive research through multiple sources: online materials, printed materials, historiographic documentation and recorded music material, in order to reconstruct as accurately as possible the main features of Bologna's music scene of the time. We consequently built a database cataloging 248 actors, who have been involved in various capacities in the production of 64 different albums, signed by 9 main singers or musical groups referring to the

Bologna musical scene (covering the city and surrounding areas). They are: Francesco Guccini, Vasco Rossi, Lucio Dalla, Gianni Morandi, Stadio, Skiantos, Luca Carboni, Angela Baraldi, Biagio Antonacci (for details on their careers and awards, see Appendix 1). Such albums provide an extensive coverage of the main personalities of the Bologna-pop-rock scene between 1978 and 1992. Among the listed artists there are some who have obtained considerable national recognition. However, with few exceptions, their biggest commercial hits were not released in the period of study but mostly later (with the exception of Morandi, whose career peak occurred *before* the period of study). Nevertheless, also for such ex-post-successful artists, the music production of the period that we analyze was the one that led to the definition of their poetics and language. It is often the case that, for musicians, the most creative period is not the highest-selling one, as this generally occurs when their production becomes more mature and less original, but at the same time more familiar and therefore palatable to the public (Tschmuck, 2012). In the period under study, therefore, Bologna was not the center of a commercial hype but rather a locally networked laboratory of innovation and research that laid the basis for the future commercial success of many of the leading personalities of the local scene.

Table 1 lists the 64 albums, identified by the singer/group that signed them, the year of publication and the abbreviation used in place of the full name.


Insert Table 1


In order to analyze the structure of the actors' collaborations in our period of observation, we coded the 248 subjects credited for participation in the making of the 64 albums published between 1978 and 1992 that we considered. This resulted in matrix A, a 64 x 248 binary matrix where A($ij$) equals 1 if artist $j$ was involved in the making of album $i$, and 0 otherwise. Next, we computed the 248 x 248 square and symmetric matrix $A^TA$, where $A^TA(ij) = A^TA(ji)$ equals the number of albums to which both actors $i$ and $j$ participated (Breiger, 1974). We computed eigenvector centrality based on

this (valued) matrix, whereas other computations are based on a dichotomized version of $A^TA$, i.e. a binary matrix where the *ij-th* element equals 1 if actors *i* and *j* collaborated in the making of one or more albums, and 0 otherwise. All computations were performed with Ucinet (Borgatti et al., 2002). We investigated these data to uncover community structures among actors, that is, groups of actors with high internal density of collaboration ties and only sparser collaborations across the boundaries of different groups (also referred to as cohesive network subgroups). We used the algorithm proposed by Newman (2006), based on the modularity statistic (Q). For a given partition in groups of actors, this statistic compares the *observed* number of ties within the groups, and what would be expected if the ties were distributed randomly. Large positive values of Q (Q $\leq$ 1) indicate the existence of such groups. After testing different possible partitions, we chose to partition actors into 4 groups (Q = 0.406) since finer partitions did not improve Q. In fact, while the partition into 4 groups improved the Q statistic compared to those into 2 and 3 groups (Q = 0.288 and Q = 0.383, respectively), partitions into 5, 6, 7 and 8 groups all yielded Q = 0.408, and for even finer partitions Q decreased with the number of groups.

The sociogram of the network of actors' collaborations in *Figure 1* was drawn with NetDraw (Borgatti, 2002). Actors are represented as points (nodes), and two nodes are connected by a line (tie) if the two actors collaborated in the making of one or more albums in our sample between 1978 and 1992. The colors of the nodes identify the four groups (communities) of actors. It can be checked that all actors are included in just one connected component, i.e. any two of the 248 actors surveyed are either tied directly, or indirectly connected through a sequence of ties (path) that involves the collaborations of other actors. The location of the nodes in the picture results from a spring-embedding algorithm that iteratively and approximately locates the nodes so that the shorter the path that connects two nodes (path length is the number of lines it includes), the closer the nodes in the figure. A by-product of this layout criterion is that nodes tied to many other nodes (actors who collaborated with many others) tend to be located at the center of the sociogram. This layout was found to be robust: all the different trials we performed resulted in substantially identical

layouts of the nodes, showing a dense and cohesive group through the years. The Bologna music scene during the period of observation is therefore confirmed as a highly cohesive social environment, where all major actors are connected, either directly or indirectly through common acquaintances.

Insert Figure 1

The number of lines in the network, i.e. the pairs of actors joined by one or more collaborations between 1978 and 1992 is 3,171. This produces a network *Density* of 10%. This statistic, shown together with others in *Table 2*, measures the number of ties observed as a percentage of all the possible ties that would exist if all actors had collaborations with all the others. On average, each actor collaborated with 25.57 other actors, as expressed by the *Average Degree*. The (network) distance between two actors measures the number of collaboration ties to be crossed in order to reach one actor starting from the other: if the two actors collaborated directly, it is equal to 1, whereas if they did not collaborate but both collaborated with a same third actor it equals 2, and so on. The *Average Distance* among actors is 2.29, and the maximum distance (*Diameter*) observed over all pairs of actors is 4. While at a first glance these distances appear relatively short, one can check whether this is actually the case by looking at the *Small World Index*.

In general, the *Small World Index* takes values larger than 1: the larger its value, the shorter the distances compared to what could be expected based on number of nodes and ties in the network, and based on the observed tendency of nodes to cluster into internally cohesive subgroups. This tendency is measured by the *Clustering Index*, that varies between 0 and 1, and in our case is 0.84, a relatively high value. This however is in part a by-product of our method for defining actors' collaborations. Indeed, any of the 64 albums we surveyed creates a cluster of actors, each one of whom is tied to all the others, and this inflates the index. After correcting for this bias (Newman et al., 2001) we got a *Small World Index* of 2.32, not especially high. Hence there is no strong

evidence that our network is a Small World in the sense described.

We computed three types of centrality indices for each of the actors. *Degree* centrality is the count of how many other actors each actor has collaborated with, in the making of one or more albums. *Eigenvector* centrality differs from *Degree* in that each collaborating actor is weighted by his/her own centrality: hence for example, two actors may have the same number of collaborators (same *Degree*) but *Eigenvector* centrality would be higher for the actor whose collaborators are more central. *Betweenness* centrality expresses the extent to which an actor is on the shortest sequence of collaboration ties among those pairs of actors who did not collaborate directly with each other: hence for example, an actor may collaborate with few, peripheral others (low *Degree* and *Eigenvector* centrality) but could nonetheless have high *Betweenness* if those collaborators belong to separate groups of actors with few inter-group collaborations.

Insert Table 2

*Table 3* lists the 20 most central actors on each of these three indices. The two co-founders of the band *Stadio*, Gaetano Curreri (singer-keyboard player) and Giovanni Pezzoli (drummer), lead the ranking by *Degree* since they collaborated with 115 actors between 1978 and 1992. They are closely followed by Lucio Dalla (singer-songwriter) with 113 collaborators, who also he ranks 1st on *Eigenvector* and 2nd on *Betweenness centrality*. Such ranks indicate, respectively, that his collaborators were themselves central in the collaborations network, and belonged to distinct circles of actors. Worth noting in this respect is once more the case of the (singer-songwriter) Francesco Guccini, who has the highest rank in *Betweenness* but is only 10th for *Degree* (81 collaborators) and 24th on *Eigenvector centrality* – an evidence that his collaborations, though not with the most central actors, position him at the junction of different circles of collaborators, thus further confirming his role of common reference for both the alternative and the commercial sides of the city scene.

Insert Table 3

Beside the centrality scores, in *Table 3* we report the community to which each actor belongs. No members of Community 1 and only two members of Community 3 are among the first 20 ranks in any of the centrality indices – almost all of the most central actors belong to Communities 2 or 4. The sociogram of Community 1 is shown in *Figure 2*. As already noted above, actors who score high on centrality indices tend to be attracted toward the geometric center of the sociogram, as an effect of the layout algorithm that arranges the nodes based on the pattern of collaboration ties.

Ignazio Orlando (bass guitar, keyboard and drums), a member of the band *CCCP - Fedeli alla linea* between 1986 and 1989, is the one among the members of Community 1 who scores highest on *Degree* (52 collaborations, 28th in the general ranking) and *Betweenness* (22nd). Renzo Cremonini (producer) has the highest *Eigenvector* centrality (45th). Biagio Antonacci (singer-songwriter, guitarist) is 2nd in this Community for all three centrality indices. Aldo Fedele (keyboard player in the band Stadio in 1985-87 and 1991-2000) and Renzo Meneghinello (choir) are also among the most central.

Insert Figure 2

Community 2 accounts for about half of the first 20 ranks on all centrality indices; its sociogram is shown in *Figure 3*. It is worth noting that in this community we find Giovanni Pezzoli, whereas Gaetano Curreri, co-founder with Pezzoli of the band *Stadio,* belongs to Community 4 as an effect of his collaborations outside the band. We already reported about them, and Lucio Dalla, in the comment to *Table 2*. Bruno Mariani (guitarist, composer and producer) is third among the members of this community on *Degree*, *Betweenness* and *Eigenvector* centrality (respectively 5th, 10th and 6th in the general ranking). Other prominent artists in this community are Roberto Roversi (lyricist),

Ron (stage name of Rosalino Cellamare, singer-songwriter) and Gianni Morandi (singer).

Insert Figure 3

Community 3 is highlighted in *Figure 4*: it includes only 2 of the 20 most central actors, the already mentioned Francesco Guccini, and Ares Tavolazzi (bass guitar, double bass). Within Community 3, Guccini and Tavolazzi rank first and second on all three centrality indices. They rank among the 20 most central on *Degree* (respectively 10th and 14th) and *Betweenness* (1st and 9th), but are respectively 24th and 49th for *Eigenvector* centrality. Paolo Giacomoni (violin), who worked with Guccini in the album "*Amerigo*" and with Vasco Rossi (member of Community 4) in "*… Ma cosa vuoi che sia una canzone …*", is 3rd in the community on *Betweenness* centrality (24th globally). Juan Carlos Biondini (guitar) worked with Guccini in seven albums along our period of observation. He is 4th for *Betweenness* in this community (29th in the general ranking), and 3rd for *Degree* with 39 collaborators (52nd) and *Eigenvector* centrality (104th).

Insert Figure 4

*Figure 5* highlights Community 4, which, together with Community 2, includes the majority of the actors listed in *Table 3*. The actors in these two communities have high scores on network centrality indices, which is the reason why both Community 2 (*Figure 3*) and Community 4 span the geometrical center of the figures. In *Figure 5* we find again Gaetano Curreri, co-founder with Pezzoli of the band *Stadio*. Within this community, Curreri and Roberto Costa (author, sound engineer, bass guitar) are respectively 1st and 2nd on all centrality indices (refer to *Table 2* for global rankings). Costa contributed to 16 albums authored by very prominent artists like Lucio Dalla, Luca Carboni, the band *Stadio*, Vasco Rossi, Gianni Morandi and Biagio Antonacci. Marco Nanni (bass guitar) and Ricky Portera (stage name of Vincenzo Portera, guitar) are other two members and

founders of the band *Stadio*. Within Community 4, they rank respectively 4th and 5th on *Eigenvector* centrality, 6th and 11th for *Betweenness*, 3rd and 8th for *Degree*. Vasco Rossi (singer-songwriter) and Roberto Freak' Antoni (singer-songwriter) are respectively 5th and 4th for *Betweenness* in Community 4 (8th and 7th globally). 'Freak' Antoni was the leader of the band *Skiantos* (lower left corner in *Figure 5*).

Insert Figure 5

## 5. Discussion

Artists, and especially musicians, tend to form cohesive networks in their local scenes. This is particularly important in mid-sized cities that are characterized by a substantially lower endowment of production infrastructure, a smaller critical mass of professionals, and fewer business opportunities with respect to large cities that qualify as potential hubs of cultural and creative industry. This is in fact the case of Bologna, that during the 80s and the early 90s managed to position itself as a creative hub of the national Italian music scene.

What do we learn therefore from our analysis of Bologna's relational networks among music professionals? Our analysis shows that the Bologna music scene at the time was a dense, cohesive network in which all the actors collaborated with all others, despite, as already pointed out, they were separated into at least two quite different fields of ideological orientations and visions about the end goals and merits of commercial vs. alternative music. The whole network is in fact represented as a single connected component: a remarkable level of cooperation that is quite atypical for urban cultural scenes in the Italian context, and that has seen many of these artists collaborate repeatedly for nearly twenty years. This is a likely consequence of the very favorable socio-cultural environmental conditions of the city at the time of observation, which encouraged personal exchange and mutual knowledge among the members of a same urban scene. The four

communities that we find are characterized, in terms of their orientation, as commercial vs. alternative ones, but with significant overlaps. Community 1, organized around the leading figure of Biagio Antonacci, has a pop orientation with some elements of the alternative scene (such as Ignazio Orlando from *CCCP*). It is a community of subjects whose collaborations only take shape in the 90s. We could say that it is generated as a sort of 'by-product' of Community 2 and maintains a transversal rock/pop orientation from a musical point of view. Community 2, which includes Lucio Dalla (clarinet player, participates in TV shows and movies in the 60s, before starting his solo career that will eventually turn him into one of Italy's pop music stars), Gianni Morandi (who has a career trajectory similar to Dalla), Ron and Pezzoli from *Stadio*, plus a key author such as Roberto Roversi, is the one with the highest density of outstanding personalities. It maintains a pop orientation but with a significant stake in high profile songwriting. The personalities mentioned have an extraordinary amount of ties with each other and with Community 4. They are authors who write for their colleagues and for themselves, who play in each other's albums, linked by relationships that go beyond the professional sphere, to become long-lasting friendships. They are not among the most prolific authors (in terms of the number of original albums released), and tend to intensely participate in community life, opting for informal spaces, such as restaurants and taverns, as their regular meeting places, which are also the venues where some of their greatest hits are written (and sometimes recorded). Pezzoli (drummer who collaborates with Dalla on almost all of his albums, meets Curreri and Rossi in Fonoprint in 1977 and has since started collaborating with them too) and Mariani (both members of *Stadio*) are interesting figures: they collaborate with different subjects of Communities 2 and 4, and play a major role in facilitating the emergence of Community 1.

Community 3 is the more oriented toward the alternative music scene, with Francesco Guccini as the reference personality, but also Ares Tavolazzi, who played bass in the alternative music group Area, one of the key Italian bands on the 70s and early 80s, as well. These musicians are particularly prolific. Guccini, born as an author of texts, returns to Bologna after having enjoyed an

important commercial success, and has a rich portfolio of contacts with the Rome and Milan music industries. Also linked to the comic book and literary scenes, he will further expand his networks in the years following our analyzes, confirming his role as a cultural catalyst.

Finally, Community 4 represents a sort of bridge between the pop and alternative music scenes, with the coexistence of Vasco Rossi (who in the early phase of his career mixes a provocative personal poetic with a blink to mainstream pop), Curreri from *Stadio* (actually, both start their careers as radio hosts in the same radio), and an anomalous figure such as Roberto 'Freak' Antoni, the leader of the *Skiantos* group, again a beacon of a provocative poetic, leaning more toward the alternative than the mainstream pop scene. Linked to Harpo's Bazar, the only group still connected to the 77 movement, *Skiantos* is also the only band to be formed within the university (DAMS) environment. The main players in this community are not commercially successful at this stage of their careers, even if they already have a large local following thanks to their live and radio activities.

The cohesiveness of the Bologna music scene, however, is not only due to the generosity and cooperative attitude of some key authors and singers, but also of some pivotal musicians. Famed players like Ricky Portera, Jimmy Villotti, Ares Tavolazzi (all of whom guitarists and/or bass players) have collaborated with the leading personalities of the Bologna scene in many of their albums, and occupy a bridge position, thanks to their central functional role within the bands.

Although the various communities can be neatly identified, they are much less separated than what one could expect *a priori* – in fact, they are clearly part of a same, larger music scene at city level, with significant connections between the two main ideological poles. This confirms that the specificity of Bologna in the period of observation is an extremely cohesive scene, whose density of exchange and interaction has likely played a driving role in positioning the city as a national hub of creative excellence in the music industry. At the same time, our results confirm that the Bologna music scene typically reflects the creation of intangible cultural commons, of the cultural resources that "refer to cultures located in time and space – either physical or virtual – and shared and

expressed by a community" (Santagata et al. , 2011, p. 1). The dense interaction among such personalities has led to the emergence of an identifiable common poetics and shared language (not only within the local network, but also with important reverberations within the national music scene), that can be seen as the result of their tightly knit social and creative exchange (Li, Ye, and Sheu, 2014). But an intangible cultural commons such as one that can be generated within a music scene is intrinsically fragile, and in the absence of significant further developments is bound to be eroded. In the case of Bologna, the core creative groups is a very cohesive community, difficult to be infiltrated by outsiders, not because of explicit barriers, but because of the nature of the social exchange that keeps the local scene together, and therefore the scope for further evolution and renewal is bound to be limited.

Moreover, as already discussed the city's social atmosphere started to change since the mid-90s, with the institutionalization turn of the local cultural policy orientation. Bologna's urban space provided an ideal setting for the practices behind the generation and consolidation of cultural commons insofar as it functioned as a safe haven for grassroots culture and for the alternative scene, including its most uncompromising parts. However, the new policy cycle of the mid-90s paved the way to neo-liberal urban renewal practices which led to an escalation of social conflict over public space and securitization of most of the city center (Pavarini, 2006), and to the steady redevelopment of larger and larger semi-central and peripheral areas, leaving less and less space (and social legitimacy) for the most daring and culturally dynamic local creative constituencies, striking a serious blow to some of the most vital dimensions of the city's cultural commons.

After 1993, therefore, the open-ended cooperation and social exchange that characterized so far the Bologna music scene started to fade as a consequence of the new social climate, despite no real discontinuity can be found in the professional trajectories of practically all of the members of the core creative group. Moreover, the dissolution of the core group was not compensated by the transition of the local music scene toward a possible trans-local form, due to the lack of major musical events that could temporarily re-aggregate the key figures in Bologna with some regularity.

Many of the members of the core group will have long, successful careers after the period of observation, and some will enjoy, and even keep enjoying, substantial commercial success well into the new century. Simply, this new phase mostly occurred away from Bologna and with little relation to the subsequent evolution of its local scene. Although we cannot carry out an explicit causal analysis, there is reason to believe that Bologna's socio-economic transformations and the shift in its urban cultural policy, leading to a gradual social fragmentation of its creative environments and to a progressive dissolution of its unique, situated socio-cultural atmosphere, have been major forces at work in bringing the creative cycle to an end, and in disbanding the cohesive community structure behind it.

The analysis of the Bologna case study seems therefore to provide an indication that cohesive and dense relational networks in mid-sized cities may be a viable alternative to the traditional attractiveness and competitiveness factors that characterize the creative sectors of larger cities. In fact, also in the case of Bologna we note that as soon as the network starts dismantling, creative excellence accordingly deteriorates rather quickly, and the local scene is disrupted. This result is of interest from the point of view of cultural policies aimed at launching or reinforcing local creative sectors. It would be interesting to check whether similar results hold for analogous mid-sized cities, both in the musical sector or in other creative sectors of local prominence.

## 6. Conclusions

Bologna's profile as a vibrant nexus of cultural scenes has greatly helped its attractiveness and competitiveness, also beyond the cultural sphere itself. The city's cultural vibrancy has long made it especially appealing for young professionals also outside the cultural and creative sectors, who were willing to live and work in a hospitable, culturally stimulating city. It is therefore likely that the creative decline of Bologna has been the result of the co-evolution of socio-economic and cultural

factors, although the topic would deserve closer and more rigorous scrutiny.

The main lesson that we draw from our analysis in instead about the role that cohesive local networks can have as a strategic substitute for the typical factors of competitive advantage that characterize the creative scenes of larger cities with respect to a mid-sized ones. In the case of Bologna, in the years of observation such network did not solely work as a common platform for professional career development, but as a real community where even the most accomplished and outstanding personalities were ready to interact and to collaborate with their younger, less established peers, even beyond their own professional sphere, and committed to supporting the development of the whole community as event organizers and social connectors. This is a far from common circumstance, and implies a very high level of bonding social capital within the community as a basis for key processes of knowledge diffusion and acquisition (García Villaverde et al., 2018). These especially favorable conditions led to the flourishing of a place-specific form of cultural commons which was however also very fragile, and has been easily swept away by the socio-economic and cultural policy changes in the subsequent years.

What is remarkable of the Bologna case study is that creative social exchange has worked even among personalities characterized by very different ideological orientations about the meaning and socio-political implications of their practice. The loosening of social ties between and within the communities found in our research proceeds in parallel with the institutionalization of culture, with the attempt to 'normalize' it by pruning away its most uncompromising components through the repurposing of their reference venues, and by substituting the latter with a new, richer offer of 'legitimized' spaces for cultural production and participation. By explicitly turning culture into a competitive asset, the new policy orientation largely compromised its authenticity and contributed to a stark change of social and cultural atmosphere. This process was further accelerated by the city's nomination as one of the eight European Capitals of Culture for the year 2000, a clear opportunity for Bologna but also an extra incentive to focus attention and resources on those cultural expressions that could favor the city's attractiveness for cultural tourism and more

generally the city's 'cultural amenity', rather than the vitality of its grassroots culture and its most independent and innovative cultural voices.

As for other mid-size cities that identified culture as an instrumental driver of competitive success and economic growth, the end of Bologna's cycle of musical effervescence has likely been sanctioned by a cultural 'cozyfication' of the city leading to the gradual transformation or disappearance of the very places and social environments that functioned as the stages for the social exchange and inspiration of the core creative group. As Bologna strove to become a 'creative city' just like many others in the world, it lost its distinctiveness to the most representative local actors. If the emphasis of the local narrative shifts from the cultivation of the uniqueness of Bologna's cultural assets to the pursuit of an ideal, abstract model of a 'creative city' as later encapsulated by Florida's (2002) '3T' formula, there is no real reason left to prefer a mid-sized instance of the model like Bologna to a much larger and financially thriving one such as Milan (or Turin).

In this paper, we have analyzed in some detail what are the characteristics of the relational exchange within the core creative group that have enabled Bologna to function as a music production hub of national importance throughout the 80s and the first half of the 90s. This analysis may be intended as a caveat for policy makers to refrain from an 'over-engineering' of creative processes and as an invitation to rather function as a facilitator to maintain the best possible environmental conditions for the flourishing and permanence of a robust alternative culture with solid grassroots connections, to ensure that the city remains on the forefront of cultural innovation. The eco-systemic nature of cultural and creative production implies that curtailing the most experimental, innovative parts also reflects on the others, whatever their level of business or commercial orientation. It is meaningful that the premises of the commercial success of the most accomplished musicians in our sample were actually built during the phase of creative effervescence that we studied, despite that such phase was not commercially successful in itself. Thinking of cultural and creative production in industrial terms makes full sense, but the 'industrial' character of these productions must be taken with a grain of salt, as they are built on creative

processes that often respond in complex ways to economic incentives, and are very sensitive to subtle issues such as authenticity and meaningfulness, making their engineering more difficult than in most other industrial sectors.

The main limitation of our analysis is that we restricted our attention to the singers/songwriters scene. It would be extremely interesting to consider the networking structure of more niche local music subcultures in Bologna during the same years, such as punk and rock, which met less success with the public outside the local scene. Likewise, it would be very interesting to compare the Bologna case with similar other cases of musical scenes in other European or non-European mid-sized cities, or even with the cultural scenes of mid-sized cities centered around different creative fields. From a systematic comparison among such cases we could possibly learn important lessons about the onset, resilience and sustainability of cultural scenes in mid-sized cities, but also about the critical factors that lead to their eventual demise, analogously to what has been done for production clusters (Suire and Vicente, 2014). These are topics that should be taken seriously by policymakers in a historical moment in which an increasing number of cities is launching ambitious plans of creative development or revitalization.

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**Appendix 1 – Artists' profiles**

Francesco Guccini has received in his career 2 lifetime achievement Tenco prizes [for quality songwriting], 4 Tenco plates as recognitions for single songs, and two honorary university degrees, as well as 17 literary prizes (due to his activity as a writer) and 2 honorary citizenships from Italian cities.

Vasco Rossi has sold more than 6 million records and is the artist with the highest number of top ranking albums (17) in Italy and with the highest number of weeks at Italian top sales rank (88). In the period analyzed, he sold about 40.000 copies with *Siamo solo noi* (1981), 100.000 with *Vado al massimo*, 1.000.000 (Golden Record) with *Bollicine* (1984), 500.000 with *Cosa succede in città* (1985), 1.000.000 (Golden Record) with *C'è chi dice no* (1987) that remained in the top sales ranks for 38 weeks, of which 12 at the top, 900.000 (4 Platinum Records) with *Liberi Liberi* (1989). He is the Italian artist with the highest number of record sales in Italy. In his career he has got 2 Golden Records, 20 Platinum Records, 23 television prizes, a honorary university degree and 1 honorary citizenship.

Lucio Dalla has sold 52 million records worldwide. In the period under study he has sold 1.000.000 copies (Goldern Record) with *Lucio Dalla* (1979), 600.000 copies with *Dalla* (1980), 300.000 (Platinum Record) with *1983* (1983), 200.000 (Platinum Record) with *Viaggi organizzati* (1984), 400.000 (Platinum Record) with *Bugie* (1986), 1.000.000 (Golden Record) with *Dalla/Morandi* (1988). He has won one Tenco plate and 15 prizes, and has received one honorary university degree in Arts, Music and Performing Arts (DAMS) at the University of Bologna.

Gianni Morandi has sold 50 million records worldwide. Musician, TV host and actor, he has mainly received prizes for his TV activity. The peak of his music career precedes the period of analysis, whereas his TV success came later.

Skiantos are a dementia rock group produced by Harpo's Bazar. A cult band, highly regarded in some alternative pop and rap circles.

The Stadio band has got 6 Platinum records. Their commercial success and prizes have all occurred after the period of analysis.

Luca Carboni, a songwriter since 1982 for Stadio, Biagio Antonacci, Angela Baraldi arrives at the top sales rank with the album *Carboni* in 1992.

**Tables and Figures**

Table 1 Artists and Albums

| Artists | Album | Year |
|---|---|---|
| Francesco Guccini | Amerigo | 1978 |
| | Album Concerto | 1979 |
| | Metropolis | 1981 |
| | Guccini | 1983 |
| | Fra la via Emilia e il West | 1984 |
| | Signora Bovary | 1987 |
| | ...quasi come Dumas... | 1988 |
| | Quello che non… | 1990 |
| Vasco Rossi | ..Ma cosa vuoi che sia una Canzone | 1978 |
| | Non siamo mica gli americani | 1979 |
| | Colpa d'Alfredo | 1980 |
| | Siamo solo noi | 1981 |
| | Vado al Massimo | 1982 |
| | Bollicine | 1983 |
| | Cosa succede in città | 1985 |
| | C'è chi dice di No | 1987 |
| | Liberi liberi | 1989 |
| | Va bene, va bene così LIVE | 1984 |
| | Fronte del palco | 1990 |
| Lucio Dalla | Lucio Dalla | 1979 |
| | Dalla | 1980 |
| | 1983 | 1983 |
| | Viaggi Organizzati | 1984 |
| | Bugie | 1985 |
| | Dalla/Morandi in Europa* | 1988 |
| | Cambio | 1990 |
| | Banana Republic | 1989 |
| | DallAmeriCaruso | 1986 |
| Gianni Morandi | Immagine Italiana | 1984 |
| | Le italiane sono belle | 1987 |
| | Dalla/Morandi | 1988 |
| | Dalla/Morandi in Europa | 1988 |
| | Varietà | 1989 |
| Skiantos | MONO Tono | 1978 |
| | Kinotto | 1979 |
| | Pessimo! | 1980 |
| | Ti Spalmo la crema | 1984 |
| | Non c'è gusto in Italia ad essere intelligenti | 1987 |
| | Troppo rischio per un uomo solo | 1989 |
| Stadio | Stadio | 1982 |

| | | |
|---|---|---|
| | La Faccia delle Donne | 1984 |
| | Canzoni alla Radio | 1986 |
| | Canzoni alla Stadio | 1988 |
| | Chiedi chi erano i Beatles | 1984 |
| | Puoi Fidarti di me | 1989 |
| Luca Carboni | ...intanto Dustin Hoffman non sbaglia un film | 1984 |
| | Forever | 1985 |
| | Luca Carboni | 1987 |
| | Persone Silenziose | 1989 |
| | Carboni | 1992 |
| Angela Baraldi | Viva | 1990 |
| Biagio Antonacci | Adagio Biagio | 1991 |
| | Liberatemi | 1992 |

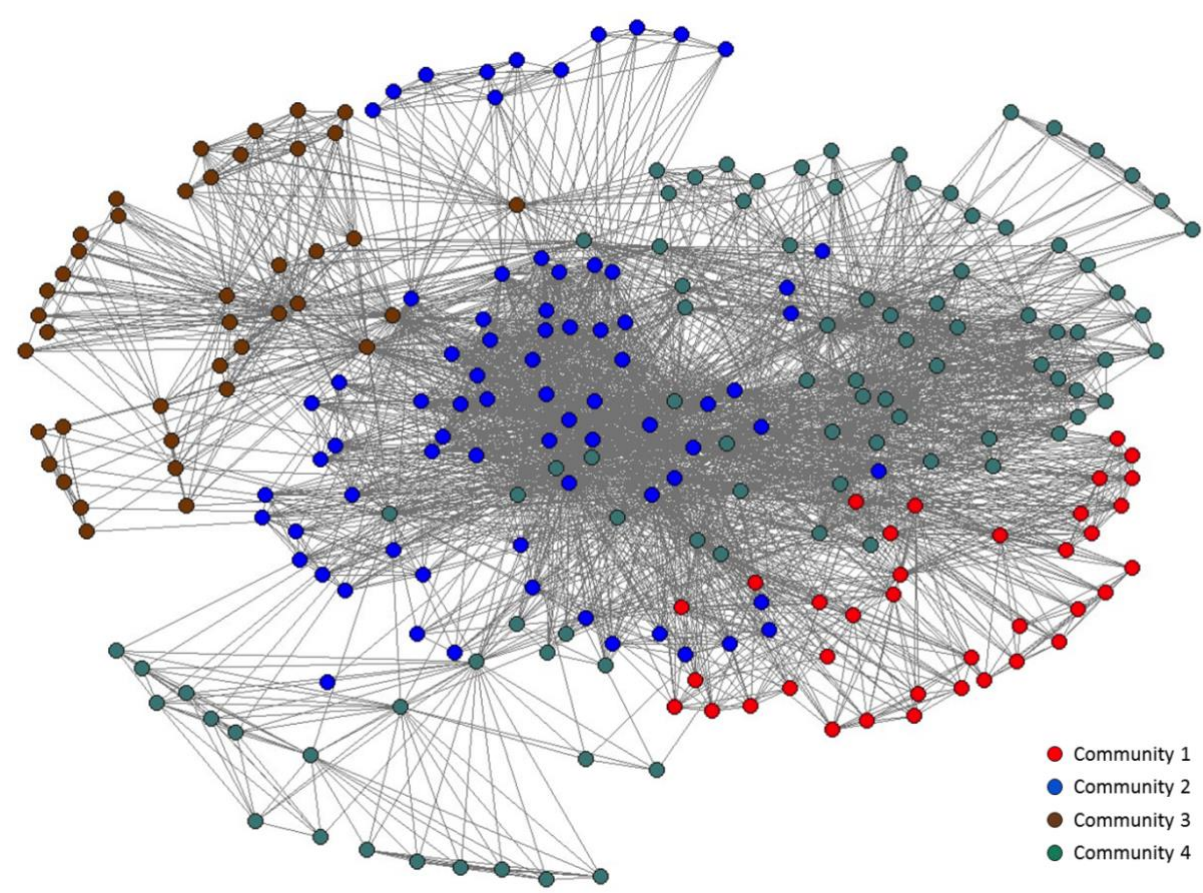Figure 1 – Artist collaborations between 1978-1998. One connected component.



Table 2 - Network statistics

| | |
|---|---|
| Density | 0.10 |
| Average Degree | 25.57 |
| Std. Dev. Degree | 21.35 |
| Degree Centralization | 0.36 |
| Average Distance | 2.29 |
| Std. Dev. Distance | 0.67 |
| Diameter | 4 |
| Clustering | 0.84 |
| Small World Index | 2.32 |

Table 3 – Centrality Indices

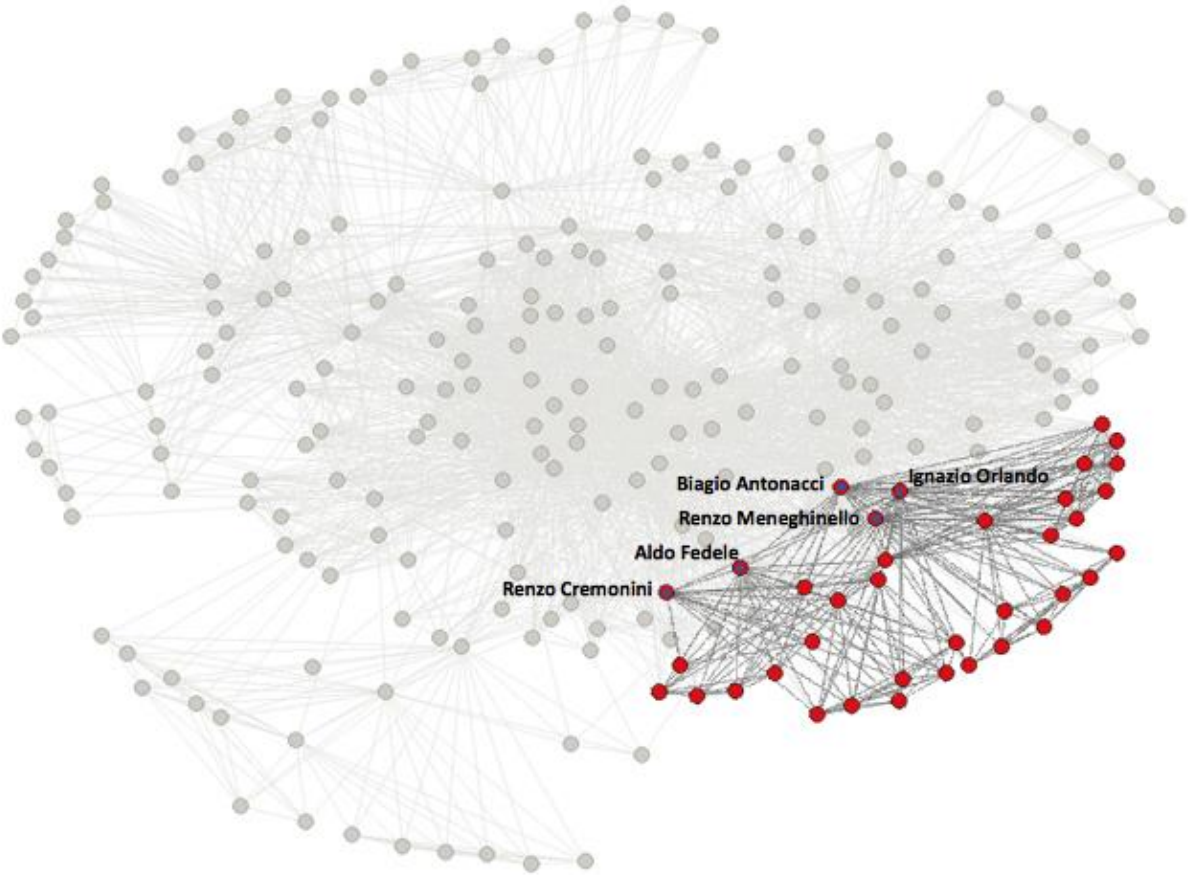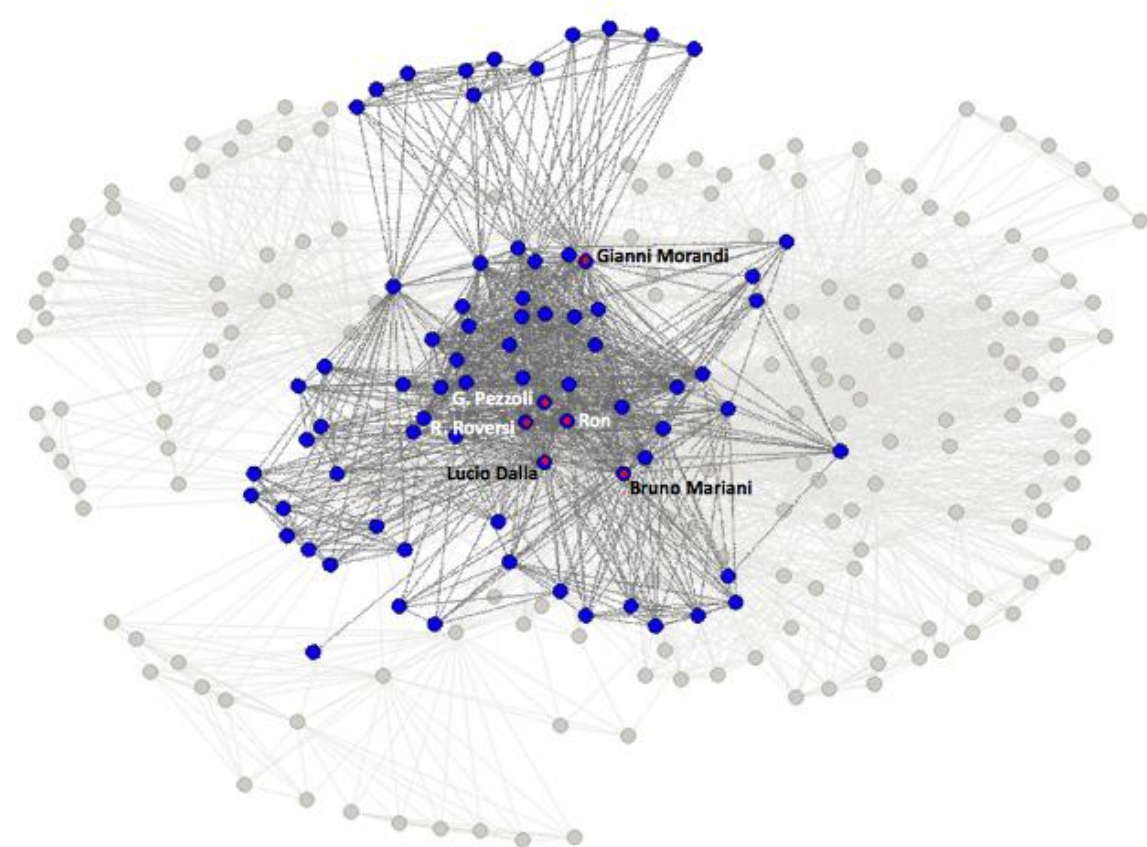| | | Degree | Community | | | Betweenness | Community | | | Eigenvector | Community |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Gaetano Curreri | 115 | 4 | 1. | Francesco Guccini | 2682.10 | 3 | 1. | Lucio Dalla | 0.37 | 2 |
| 2. | Giovanni Pezzoli | 115 | 2 | 2. | Lucio Dalla | 2663.99 | 2 | 2. | Gaetano Curreri | 0.35 | 4 |
| 3. | Lucio Dalla | 113 | 2 | 3. | Giovanni Pezzoli | 2632.67 | 2 | 3. | Giovanni Pezzoli | 0.32 | 2 |
| 4. | Roberto Costa | 103 | 4 | 4. | Gaetano Curreri | 2533.42 | 4 | 4. | Roberto Costa | 0.27 | 4 |
| 5. | Bruno Mariani | 88 | 2 | 5. | Roberto Costa | 2470.13 | 4 | 5. | Marco Nanni | 0.26 | 4 |
| 6. | Marco Nanni | 88 | 4 | 6. | Jimmy Villotti | 2147.60 | 4 | 6. | Bruno Mariani | 0.24 | 2 |
| 7. | Ron | 87 | 2 | 7. | Roberto 'Freak' Antoni | 2130.14 | 4 | 7. | Ron | 0.21 | 2 |
| 8. | Vasco Rossi | 85 | 4 | 8. | Vasco Rossi | 1589.34 | 4 | 8. | Ricky Portera | 0.19 | 4 |
| 9. | Mauro Malavasi | 83 | 2 | 9. | Ares Tavolazzi | 1463.24 | 3 | 9. | Luca Carboni | 0.19 | 4 |
| 10. | Francesco Guccini | 81 | 3 | 10. | Bruno Mariani | 1307.16 | 2 | 10. | Mauro Malavasi | 0.17 | 2 |
| 11. | Luca Malaguti | 73 | 2 | 11. | Gianni Morandi | 977.94 | 2 | 11. | Vasco Rossi | 0.15 | 4 |
| 12. | Rudy Trevisi | 71 | 4 | 12. | Marco Nanni | 785.53 | 4 | 12. | Roberto Roversi | 0.13 | 2 |
| 13. | Maurizio Solieri | 67 | 4 | 13. | Mauro Malavasi | 742.04 | 2 | 13. | Fabio Liberatori | 0.13 | 4 |
| 14. | Ares Tavolazzi | 65 | 3 | 14. | Maurizio Solieri | 694.11 | 4 | 14. | Ambrogio Lo Giudice | 0.12 | 4 |
| 15. | Roberto Roversi | 65 | 2 | 15. | Ron | 634.26 | 2 | 15. | Gianfranco Baldazzi | 0.11 | 2 |
| 16. | Luca Carboni | 63 | 4 | 16. | Luca Carboni | 620.74 | 4 | 16. | Beppe D'Onghia | 0.11 | 2 |
| 17. | Fawzia Selama | 61 | 2 | 17. | Rudy Trevisi | 613.57 | 4 | 17. | Gianni Morandi | 0.11 | 2 |
| 18. | Gianni Morandi | 60 | 2 | 18. | Luca Malaguti | 598.68 | 2 | 18. | Angela Baraldi | 0.10 | 2 |
| 19. | Ricky Portera | 60 | 4 | 19. | Mogol | 595.49 | 2 | 19. | Luca Malaguti | 0.10 | 2 |
| 20. | Beppe D'Onghia | 59 | 2 | 20. | Iskra Menarini | 561.87 | 2 | 20. | Rudy Trevisi | 0.10 | 4 |

Figure 2 – Community 1

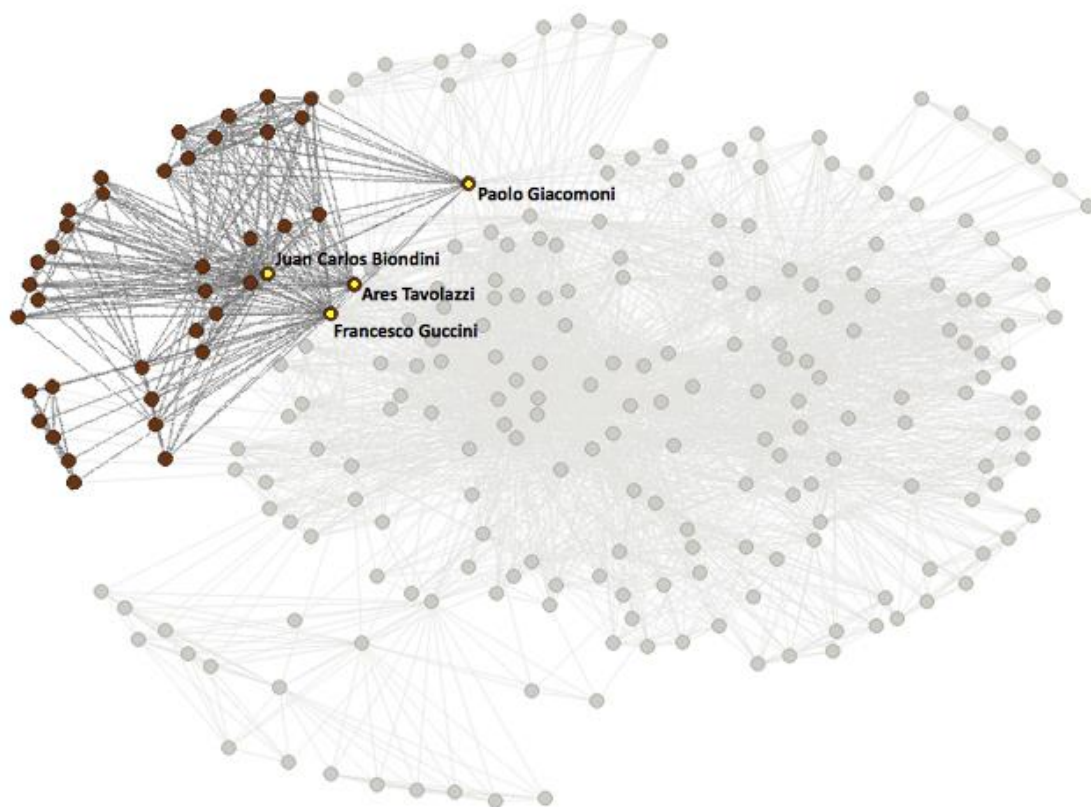Figure 3 – Community 2



Figure 4 – Community 3

Paolo Giacomoni

Juan Carlos Biondini
Ares Tavolazzi
Francesco Guccini

Figure 5 – Community 4