

Strategic and Genetic Networking: Relational Endowment in a Local Cultural Offer

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Abstract

The local theatrical offer is the result of all the theatre companies which perform shows in each other's venues. Theatre hospitality is an inherently relational phenomenon, and besides big national and international tours, it is an important part of the local cultural landscape. Aiming at contributing to the literature on network analysis applied to the inquiry on culture, the research adopts the network perspective to test hypotheses on companies' relational behaviors and mechanisms of network formation in a local context in Italy. The analyses show that companies which get more public funding tend to host more; there is a homophily effect based on audience levels; companies tend to reciprocate hospitality relations and form clusters of close collaborations.

Keywords: cultural production; theatre; social network analysis; ERGM; arts

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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Acknowledgements

This work would not have been possible without the collaboration and the data provided by Osservatorio Culturale del Piemonte. My thanks go to the OCP staff.

The author is also indebted to Valerio Leone Sciabolazza, University of Florida, for precious technical support on ERG models.

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1. Introduction

What do we see when we go to the theatre? Of course we see a company performing a piece, and our cultural tastes are responsible for whether we enjoy the show or not. But tastes apart, when we go to the theatre we probably see a company which does not own the venue in which the show is taking place. So, in most cases, when we decide to go to the theatre we make a double choice: we choose a show, because we think we will probably enjoy it, and we choose a theatre, because it is close to home, because it is beautiful, because we have a subscription, and so forth. In any case, that specific show involves two different subjects, one company and one theatre. And so it is for all the theatre seasons. So, we can say that the whole cultural offer in a specific place in a specific moment, is the result of all the possible pairs of hosting and hosted subjects.

If we now turn the perspective from the consumer (who goes to the theatre) to the producer (any possible local theatre company), we understand that each theatre season is the result of the movement of all the companies that host each other. This is precisely hospitality in theatre, it is an inherently relational phenomenon, consisting of connections among theatre companies that perform in each other's spaces, and, together with big national and international companies' tours, it is a very important part of the local cultural landscape.

So, what are the reasons that lead two particular companies to connect? Are there companies more inclined to host, and others more inclined to move? Are there groups of companies that tend to host each other, forming cultural clusters? Are connected companies somehow similar?

In this study we observe the structural properties of the theatre offer in a local context in Italy, and we propose hypotheses about network formation mechanisms. We use network descriptives and exponential random graphs models, which allow a joint observation of individual properties and structural configurations, in

order to observe the social mechanisms that shape the cultural offer.

2. Analytical framework

2.1 *An introduction to the relational look on culture*

Scholars and experts in widely different fields have underlined the importance of the relational dimension of cultural production, which has been defined and empirically shown in different ways. Broadly speaking, major sociologists agree on a vision of the cultural field as somehow grounded on systems of relations generating and maintaining it.

For Pierre Bourdieu social capital consists of “the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (1986, p. 248), and these sets of relational resources, together with economic and cultural capital, are responsible for the position occupied by each individual within the social space of a *field*.

Following Howard Becker, “all artistic work, like all human activity, involves the joint activity of a number, often a large number, of people. Through their cooperation, the art work we eventually see or hear comes to be or continues to be” (1982, p. 1). In the analysis of cultural production he underlines the importance of networks, considered as the cooperative activity of all the subjects involved in the construction of the *art worlds*.

Moreover, according to the production of culture perspective (Peterson and Anand 2004) the industry structure in the creative fields depends on the ways in which producers relate to one another – many small enterprises in competition, few big vertically integrated ones, or different combinations of these forms – and the different configurations of producers determine the presence of certain kinds of products in the marketplace.

Each of these approaches emphasizes a different aspect of the structural properties of the cultural field. Bourdieu focuses on the positions of the subjects involved in the field, and on how these positions generate advantages in the field for those with a good social capital base. Becker attributes great importance to relations as a necessary part of the creative process. The production of culture perspective looks at the characteristics of groups of producers in order to assess some general properties of cultural markets and industries.

Even with substantial differences, all these perspectives on culture recognize that the ways in which the producers relate among them have profound consequences in shaping the cultural field. Furthermore, evidence has been provided on how social network analysis, as both a theoretical and a technical set of tools, may be a common ground on which these different relational perspectives on the cultural field may integrate (McLean 2016; Fox 2014; Bottero and Crossley 2011; De Nooy 2003). In this sense there is a joint focus to the inquiry on culture from different theories and approaches, with the possibility of agreement on some aspects of its relational foundation. But in spite of the possibility of a general common relational look on culture, there is a risk arising from the application of network methods to a complex and multifaceted phenomenon like culture: the excess of description. Network analysis, as a methodological toolbox, must be applied in the light of a comprehensive theoretical framework in order to provide meaningful explanations, and not just meticulous descriptions of cases. Having declared this theoretical need, it must be stated that at the point at which research has arrived today in this field, we cannot count on a coherent and well defined perspective on relations and cultural production. At the same time our aim is not to use the case under our observation to verify one specific theory. Rather, from the review of different theories and empirical studies, we propose an inductive theoretical path, from

which will emerge a possible common framework for the analysis of relations within cultural fields.

2.2 *Strategic and genetic networking*

There is increasing interest in the empirical analysis of the cultural field through networks. Researches in different artistic and cultural domains have in common the use of networks as lenses on consumption or production processes. What distinguishes these researches is the different, even if not mutually exclusive, function they attribute to networks. On the one hand networks may be seen as the result of a set of individual properties or abilities that are used in the field in a strategic way in order to follow specific goals. On the other hand networks are used with their structural properties in order to understand some genetic characteristics of the field and the social processes behind it. Based on these interpretations, grounded in the thought of the above-mentioned authors, we can distinguish a strategic and a genetic function of networks.

The *strategic function of networks* refers to the (conscious or subconscious) deployment of relational resources within a field with the result of increasing the chances of achieving an objective.

In contemporary literature on cultural production there are some empirical examples of such a strategic role of relations. For example research on institutional networks in the cultural field, like festival networks (Gallelli 2016) and museum consortia (Bagdadli 2003), shows important results about network creation processes and the way in which the relations support economic performance. For some subjects, the lack of economic capital may be integrated with relational resources, allowing a weak organization to survive in the market. The availability of “complementary resources”, like networks, is considered a key factor in the formation of alliances. Studying the fashion industry in Milan, D’Ovidio (2010) has shown that cultural workers, working together, trigger virtuous

mechanisms of mutual recognition and trust which support the companies in establishing themselves and gaining success. These aspects are in line with a bourdesian view of capital conversion, particularly attuned to artistic production in which, often, the power of economic relations may be dominated by networking dynamics.

The *genetic function of networks* refers to the relational elements embedded within a social structure, which have an influence on the way in which a phenomenon eventually manifests. Research on cultural districts (Mizzau and Montanari 2008; Santagata 2002) shows how links between the subjects in the field foster creative processes, cooperation and the supply of cultural activities, and also how relations among the producers generate a 'creative atmosphere' that supports production processes (Bertacchini and Santagata 2012). Economic sociologists also argue that in the contemporary economy, the social and relational dimensions of innovation processes are becoming more important than the organizational characteristics of the firms. Innovative processes grow not only inside the boundaries of the companies, but also through both formal and informal relations among them (Trigilia 2007).

In their pioneering study on creative teams in Broadway musical production, Uzzi and Spiro (2005) looked widely into the structural properties of artistic cooperation. They have shown that financial as well as artistic success is associated with medium levels of small world(ness) (see Milgram 1967) that is, sets of relational configuration characterized by short global separation between the clusters and high local cohesion.

Networks have also been used to demonstrate the mechanisms of diffusion of a music scene (Crossley 2009; 2008), showing how relational dynamics are as important as local historical and biographical processes for the genesis of a cultural phenomenon. In a recent collection of empirical applications of network studies to music worlds, the relevance of the rela-

tional approach for all the domains involved with cultural production, such as production processes, tastes, gender relations, careers, and so forth has been widely proved (see Crossley et al. 2015). As Widdop states: 'Being active in music [we can generalize in culture] is much more complex than simply basing it on theoretical assumptions of class and education; it is fundamentally a social act; the level to which you engage in music [culture] and the genres you attach to are somewhat dependent upon the networks you are embedded in and position in the social structure' (2015, p. 99).

Arguably, it is not rare to observe relational processes with mixed functions. For example, Starkey, Barnatt and Tempest (2000) describe the case of *latent organizations*: informal key configurations of stable subjects, which emerge according to social mechanisms related to trust and mutual cooperation and are employed strategically for sustaining processes of production and divulgation of cultural goods and activities in the marketplace.

2.3 Networked theatre companies: research hypotheses

As mentioned above, theatre companies performing in each other's venues create a network of hospitality relations that is a relevant part of their activity. Besides the intrinsic artistic value, these relations have a strategic function and constitute genetic processes that characterize the local cultural offer.

In our empirical case, we interpret the social status related to hospitality relations, as a strategic element of the productivity of the companies. The prestige of the hosting and hosted subjects (sometimes theatre websites advertise 'prestigious hospitality' alongside the company's repertoire) may be a vehicle of success, as in the case of small companies which manage to perform in big theatres, or small theatres that host well-established companies; in this sense the tendency to create links does

not necessarily reflect the companies' economic resources (**Hypothesis 1**).

This hypothesis is based on the interpretation of social capital as a strategic complementary resource, rather than a form of capital which increases proportionally to other forms of capital. It might be true in some cases that the wealthier an organization, the better its chances of attracting relations; but it is also true in many cases that artistic collaborations arise to support the absence of economic capital or other resources, especially in periods of crisis and for small subjects.

In order to investigate some of the genetic mechanisms embedded in the relations among companies, we borrow from network theory an influential concept, which may help to understand some of the processes related to network formation. The homophily argument (McPherson et al. 2001), refers to the tendency for people or organizations to form ties disproportionately with others who share similar attributes with them. In our case, the similarity of organizational features between two companies may explain the emergence of recurrent patterns of artistic collaboration. Even if small companies strive to perform in big venues, it is more probable that in their daily artistic activity they will connect with other small subjects; and also big theatres will be more inclined to host famous companies in order to ensure adequate ticket sales. Therefore, we can hypothesize that companies tend to connect to others with similar organizational characteristics (**Hypothesis 2**).

Moreover, while pure market relations are mostly unidirectional and based on economic convenience, artistic collaborations, as mentioned, may foster mutual recognition and trust, which are generated by reciprocity. Accordingly, we hypothesize that if one company hosts another one in its own venue, there are good chances that this relation will be reciprocated (**Hypothesis 3**).

Hospitality allows information transmission, as it implies direct contacts between the two subjects. These kinds of

relations produce a fund of information within a defined territory, knowledge of who works with whom, the prospect of possible collaborators, useful information about the characteristics of the other subjects and the market conditions in which they operate. Nonetheless, hospitality may ensure a certain margin of uncertainty control. Even in periods of crisis, companies embedded in dense networks of collaborations, may count on a greater possibility of performing, compared to isolated ones. As a result, relations among companies tend to be embedded in dense groups (**Hypothesis 4**). Successful cultural cooperation is likely to result in relational configurations that are more complex than simple reciprocal dyads. Especially in local cultural markets in which there are small geographical separations among the subjects, we expect to find triadic closure, that is, relations in which, if subjects A and B are connected, and A and C are connected, B and C will also probably share a link. This is one of the typical (genetic) mechanisms that can be found in creative contexts, such as cultural clusters, 'art worlds' or scenes, in which widespread collaboration and relational closure are tangible.

3. Data and methods

3.1 Data

Our empirical analysis is based on data about hospitality shows in Piedmont, Italy, among professional companies. The source of the (anonymized) data is the Cultural Observatory of Piedmont (OCP), a private organization in partnership with the region, which conducts research in the field of cultural goods and activities. For the selection of the subjects involved in the study we followed the definition of 'professional company' according to the regional law 68/1980 concerning the system of public contribution to theatre activities. Public funds are distributed to companies on the basis of criteria concerning artistic and economic standards, such as a minimum number of shows per year or the number of

paid hours per actor. Our data concern all the companies that met the regional criteria in 2011. As a result we were able to reconstruct the whole network of the 46 regional professional companies in that year. The ties are directed, where the direction indicates if the company was the hosting subject (incoming relation) or the one that performed the show (outgoing relation).

Data about individual characteristics of the companies were also available, concerning some economic and performance indicators.

3.2 ERGM

For our analyses we applied both the descriptive analytical tools available with UCINET software (Borgatti et al 2002) and statistical modelling for network data. Exponential random graph (ERG) family models (Lusher et al 2013; Robins et al 2007) have the purpose of explaining the different interwoven mechanisms responsible for shaping the network as we empirically observe it. They are designed to deal with types of effects at different analytical levels. In our case we consider nodal attributes, which are organizational and economic characteristics of the companies, and structural effects, network configurations useful for capturing endogenous social mechanisms.

Relational social dynamics, by definition, violate the assumption of independence of the observations on which standard statistical models are based, thus ERG models are explicitly designed in order to include the mutual dependence of the nodes²². As a result ERG models are appropriate to our purposes because they meet both a technical need – the fact that two companies are tied makes them mutually dependent – and the theoretical rele-

vance of analyzing the joint effect of individual and structural determinants.

3.3 Variables and models

In the first part of the analysis we analyze relational metrics useful for describing the general structural properties of our network. Secondly we present two models, the first one with only nodal attributes, with the aim of understanding which individual characteristics of the companies explain the emergence of artistic links.

Among these variables we consider the *age* of the companies, to control the fact that older companies might have a wider knowledge of the other subjects involved in the field and consequently more chances to connect with them.

Secondly, we analyze the impact of the amount of *funding* (expressed in millions of euro) received by the company, as a proxy for its economic resources, on the probability of sending (NODEOCOV) and receiving (NODEICOV) ties, in order to understand how the relational behavior of a company is related to its economic capacity.

Moreover, with the aim of testing the homophily hypothesis (explained above), we consider a set of variables regarding the overall *audience* of the companies (through the total number of tickets issued, including free ones, divided into 3 classes: up to 10000 tickets per year; from 10001 to 30000; over 30000), the *city* in which the company is settled (four Piedmontese provinces), and the number of shows performed in *schools* (as a proxy for a more education-oriented, rather than a more market-oriented artistic behavior of the company).

In model 2 we add structural effects. *Reciprocity* concerns a mutual relation between two companies: if they each host and are hosted by others, this indicates a strong and clustered artistic collaboration.

Secondly we analyze *popularity* and *expansiveness* effects, observed respectively by GWIDEGREE and

²² Where the models do not include any network effects, as the following model 1, the ERG models are similar to traditional logistic regression models, analyzing the presence or absence of a relation between two nodes as dependent variable.

GWODEGREE statistics. These parameters control for particularly unbalanced degree distributions, concerning respectively incoming and outgoing relations. These are useful to understand if the field is dominated, on the one hand, by subjects who attract the majority of the other companies, and, on the other hand, if there are some subjects particularly active and known in the field who perform in most of the local theatres.

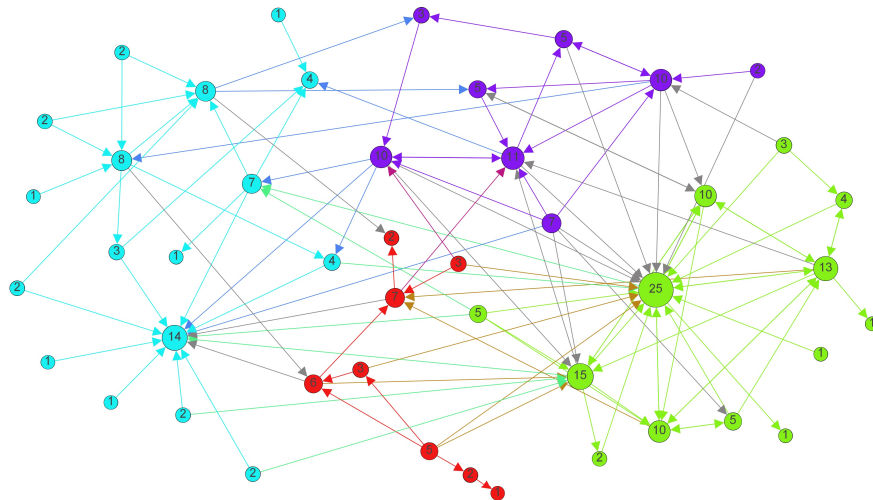
Lastly, the model also includes *transitivity* and *hierarchy* mechanisms. In the first case we control for transitive closure through the geometrically weighted edgewise shared partners (GWESP) parameter. It captures the typical triangular pattern, in which actor *a* is connected to actor *b*, actor *b* is connected to actor *c*, which in turn is connected to actor *a*. This configuration is particularly relevant in order to catch clusters of companies with cultural-artistic uniformities that tend to collaborate. On the other hand, in the second case, we control for the presence of hierarchical configurations in the network. The GWDSP parameter (geometrically weighted dyadwise shared partners) catches the tendency in the field for some companies who do not collaborate, to be at least indirectly connected to a common third company, showing a more hierarchical, non-triangular, configuration.

4. Analysis

4.1 Network descriptives

Figure 1, elaborated with Gephi (Bastian et al. 2009), is a graphical representation of the 120 hospitality relations among the 46 companies. As mentioned, the direction of the arrow indicates whether the company is performing or hosting; the size of the node is proportional to the degree of the company (also indicated inside the circle), irrespective of the direction of the relations. The different colors of the nodes aim to give a general indication of the level of embeddedness of the companies in local clusters with dense sub-networks. The algorithm (Blondel et al. 2008) is a heuristic method based on modularity optimization, useful for unfolding the community structures of networks. As we can see there are four sub-groups of companies with greater levels of density inside the groups than outside. This gives a first general indication of the fact that in our field of observation there is a certain degree of recurrent collaboration among some actors, which makes the cultural offer somewhat segmented.

Figure 1: Network of hospitality relations among professional theatre companies in Piedmont, 2011



So, to what extent do the companies connect with one another? The density of the overall directed network is 0.058 (Table 1), meaning that almost 6% of all the possible connections among all the nodes is actually present. If we do not consider the direction of the collaborations, regardless of whether a company is hosting or performing a show, but just considering the presence of a relation between them, the density is around 10%. Generally speaking this is not a particularly high level of density, but it is high enough considering that our cases are theatre companies potentially in competition within the market of the cultural offer of a territory. The general high level of connection among the companies is also shown by the average degree, indicating that, regardless of the direction of the collaboration, one company is tied on average with 4.7 others.

Centralization metrics, in particular the in-centralization value of around 40%, shows that if there is, we can say, a diffuse local cultural collaboration in the whole field shown by the presence of many dyads, at the same time some theatres (in Figure 1 two of them are immediately visible) have a higher propensity to host. These may be recognized as well-known

venues, in which probably every company aims to perform in order to gain visibility and success. In every local cultural scene there are one or two theatres which are considered the best (or simply the biggest) ones.

In spite of these market characteristics, the field seems to be quite accessible and open, for example there is an average distance of about 2.5 between any two companies, meaning that even if I did not collaborate with a specific company which I am interested in, I probably know someone who did; this general feature of the field is useful for matters regarding not only direct collaboration, but also for easy access to information and formation of conventions. On that line, the clustering coefficient shows that on average over 40% of companies connected to a focal one, are in turn in touch with one another.

Table 1: Network descriptives

	directed	un-directed
Density	0.058	0.105
Avg. degree	2.609	4.739
In-centralization	0.395	0.392
Out-centralization	0.122	-
Avg. distance	2.897	2.537
Avg. clustering coeff	0.231	0.414

So far we have focused on the general structural features of the field. These are important as tools to describe the relational dimension of our observation context; but also considering that the network properties reflect the underlying social mechanisms responsible for the formation and the maintenance of the network itself. This perspective has deep theoretical roots in sociological thinking. For example, new economic sociology (Granovetter 1985) interprets economic phenomena as embedded in systems of social relations. Moreover, following Harrison White (1981), markets emerge from the interactions of producers, who relate to and observe each other trying to satisfy consumer's requests. Thus, particular structural properties are functional to the circulation of information, the formation of reputation, alliances and competitions.

For example, Becker's (1982) argument, in contrast to the classical theory of reputation in arts, is that reputation is formed and carried on within art worlds, and does not only depend on the artistic object itself. In this sense, the structural properties of an artistic field are indeed indicators of the social conditions in which information and judgments flow in real contexts.

4.2 Models

We now present the results of the models, which include individual and structural variables. We read the results as the impact of the single parameters on the tendency of forming a tie between any two companies, uncovering individual properties and endogenous mechanisms that are responsible for shaping the network.

Significant effects are presented in bold in Table 2.²³ The first parameter, edges, in both models is negative and significant; we interpret this variable as the intercept in standard regression models. In this case it indicates that the probability of observing an edge, i.e. a couple of companies, outside any other possible more complex relational configuration is negative; this value does not imply any substantive explanation, it simply indicates that the relational behaviors of the companies are actually embedded in more complex social structures than dyads.

In model 1 significant coefficients are: funding in degree, audience homophily for class 3 and school performances. These variables have a positive effect, even though it is not particularly strong for funding and school performances, on the probability of forming ties. These effects can be interpreted as follows: a) there is a tendency for companies which get higher public economic support to have incoming relations; b) big companies tend to share ties with one another more than they do with smaller companies; c) the greater the difference in the number of shows performed in schools between two companies, the greater is the probability for them to share a tie, indicating relational heterophily based on the number of shows performed for students. This implies that sharing a more educational theatre activity is not a predictor of preferential connection among companies.

²³ The models have been estimated using Statnet package for ERG models in R (Handcock et al., 2010)

Table 2: ERG models of tie formations among theatre companies

	Model 1	Model 2
Edges	-3.835 (0.378)	-3.197 (0.357)
Age	0.007 (0.009)	0.004 (0.007)
Funding out degree (NODEOCOV)	-0.953 (0.587)	-0.924 (0.654)
Funding in degree (NODEICOV)	1.766 (0.313)	1.171 (0.323)
City (NODEMATCH)	0.161 (0.220)	0.095 (0.171)
Audience homophily class 1 (NODEMATCH)	0.766 (0.423)	0.742 (0.350)
Audience homophily class 2 (NODEMATCH)	-0.184 (0.361)	0.070 (0.330)
Audience homophily class 3 (NODEMATCH)	1.151 (0.258)	0.651 (0.216)
School performances (ABSDIFF)	0.002 (0.001)	0.002 (0.001)
Reciprocity		1.103 (0.463)
Popularity (GWIDEGREE)		-1.719 (0.484)
Expansiveness (GWODEGREE)		-0.560 (0.517)
Transitivity (GWESP)		0.472 (0.190)
Hierarchy (GWDSP)		-0.070 (0.052)
AIC	816.8	787.2
BIC	867.5	866.1

Standard errors in brackets. Values in bold indicate significance at 0.05 level

Economic funding, audience levels and educational activity are variables that concern some individual characteristics of the

companies. In the second model we added five structural variables in order to control

for endogenous relational mechanisms.²⁴ At a general level, model 2 is better specified than model 1, as shown by AIC and BIC statistics which show lower values.

Like model 1, model 2 also has a significant, though weak, effect of funding. This partially disproves Hypothesis 1. In fact, if tie formation was independent from funding we would expect no effect at all. We see from one side no relation between funding and out degree, meaning that companies have outgoing relations regardless of the different levels of public funding they get; but on the other side incoming relations are somehow supported by higher levels of public contribution. This does not indicate a generalized influence of the funding on the tendency to connect with others, but probably a particular characteristic of the field that concerns a higher dependency of hosting institutions on public economic resources (probably the big and famous theatres we mentioned before).

Compared to model 1, in model 2 also audience homophily for class 1 is positive and significant, meaning that, when controlling for endogenous mechanisms, the tendency to host one another emerges also for small companies. This result confirms Hypothesis 2, reinforcing the vision of a field in which there is a polarized clustering tendency among theatre companies. Even if small companies probably aspire to perform in big venues, the whole field is actually characterized by groups of companies with similar audience levels which collaborate. This is a sign of what Lazarsfeld and Merton (1954) called ‘status homophily’, a process that leads people or organizations to connect with others of close social standing to themselves.

Reciprocity is positive and significant, this indicates that in the network of theatre hospitality, if one company hosts another one for a show it, in turn, will probably be hosted by the other company. These mechanisms of tie reciprocation show the presence of diffused collaboration exchange, confirming Hypothesis 3.

The negative and significant coefficient for popularity (GWIDEGREE) indicates that there is not much variation among hosting companies in their tendency to attract others, meaning that there is a quite uniform distribution of incoming relations in the field. In the previous section we showed a high centralization coefficient, indicating that there are some companies that attract ties more than others, but probably this characteristic involves a minor part of the relations, making the in degree distribution not particularly skewed. The non-significant coefficient for expansiveness (GWODEGREE) suggests there is no clear tendency for some companies to be disproportionately central performers, again showing a structure of the field not particularly dominated by a few central companies.

GWDSPP, used as a measure of hierarchy in the network, is negative but not significant; while transitivity is positive and significant. This shows the existence of clustered social relations, confirming Hypothesis 4, in which company *a* and company *b*, which share a tie, will both probably be connected to company *c*.

5. Discussion and conclusions

Hospitality in theatre is an inherently relational phenomenon, and with their links the companies shape the local cultural offer. The analyses in the present article have contributed to show the relevance of the network perspective on a cultural field, and the fact that where there are relations among the subjects involved, we can effectively use formal methods to describe their strategic and genetic elements.

To go back to our starting questions, what do we know about theatre companies that collaborate? First of all we know that they do it. More precisely we know that companies which get more public funding tend to host more; we know there is a homophily effect based on audience levels, and this polarizes the field into two separated groups of big and small companies which connect within their

²⁴ The model has good convergence. In appendix A we attach the GOF diagnostic graphs.

group but not between the groups; we know that companies tend to reciprocally perform in one another's venues and their relations are transitive, forming clusters of close collaborations.

A description of the field based only on individual attributes would not be sufficient to understand the way in which cultural agents occupy specific positions within the social space of the cultural production in a local territory. In our analyses model 2, compared to model 1, provides a more articulated image of the network, in which there are some endogenous mechanisms, such as reciprocity and transitivity, which contribute to shape the local cultural offer.

These results, even though they come from a particular case, add some knowledge to our understanding of the cultural field. All the theoretical perspectives in line with a relational look on culture may be effectively integrated by the use of formal network methods. The idea of networks as a complementary resource held by the cultural producers echoes Bourdieu's definition of social capital. It is known that Pierre Bourdieu did not sympathize with network analysis; rather than looking for visible and direct links he aimed to capture invisible and objective social relations. Technically Bourdieu pursued this goal by using methods for detecting latent dimensions, such as the famous application of multiple correspondence analysis on tastes. But today in sociological and methodological literature there are empirical demonstrations of the compatibility of the two approaches. As De Nooy (2003) states, concrete relations (like the ones analyzed by social network analysis) may be useful to identify deeper *field* relations; or, following Bottero and Crossley (2011), shared *habitus* can be explained by means of social processes such as mutual influence, which take place among people who also share interaction and concrete re-

lationships. In our case we have shown that collaborative relations may support the artistic activity of companies which look for venues in which to perform: companies who are able to convert their relations into shows get better chances in the market. This is close to an interpretation in terms of social capital conversion into economic capital, a hypothesis which would be in line with the bourdesian repertoire.

Furthermore, the aspects related to the ways in which theatre companies connect, forming reciprocal collaborations and closed triads, constitute genetic characteristics of cultural markets. These can integrate the analysis of the production of culture perspective concerning the influence of the industry structure on the presence of particular products on the market. This is certainly an interesting topic, and one that is open to future research, because it bridges the analysis of production to the analysis of consumption. A possible future research question is: is there a relation between the ways in which the producers relate to each other and the types of products that they will offer? This topic was partially addressed by Paul DiMaggio (1977) who proposed an approach to the study of cultural products starting from the knowledge of the market structure and productive processes. Integrating such an approach with network insights would certainly lead to innovative discoveries.

Last but not least, the relational dimension of cultural production is a useful issue also for policy research. We know that networks support producers' activity in many ways, providing resources, information, collaborations and so forth. A greater attention of policy makers to the relational dimension of cultural markets may encourage institutionalization processes aimed at diffusing the benefits of networking also to more isolated subjects and, likely, at integrating the lack of public economic resources.

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Appendix A

Figure A: Goodness of fit plots, model 1

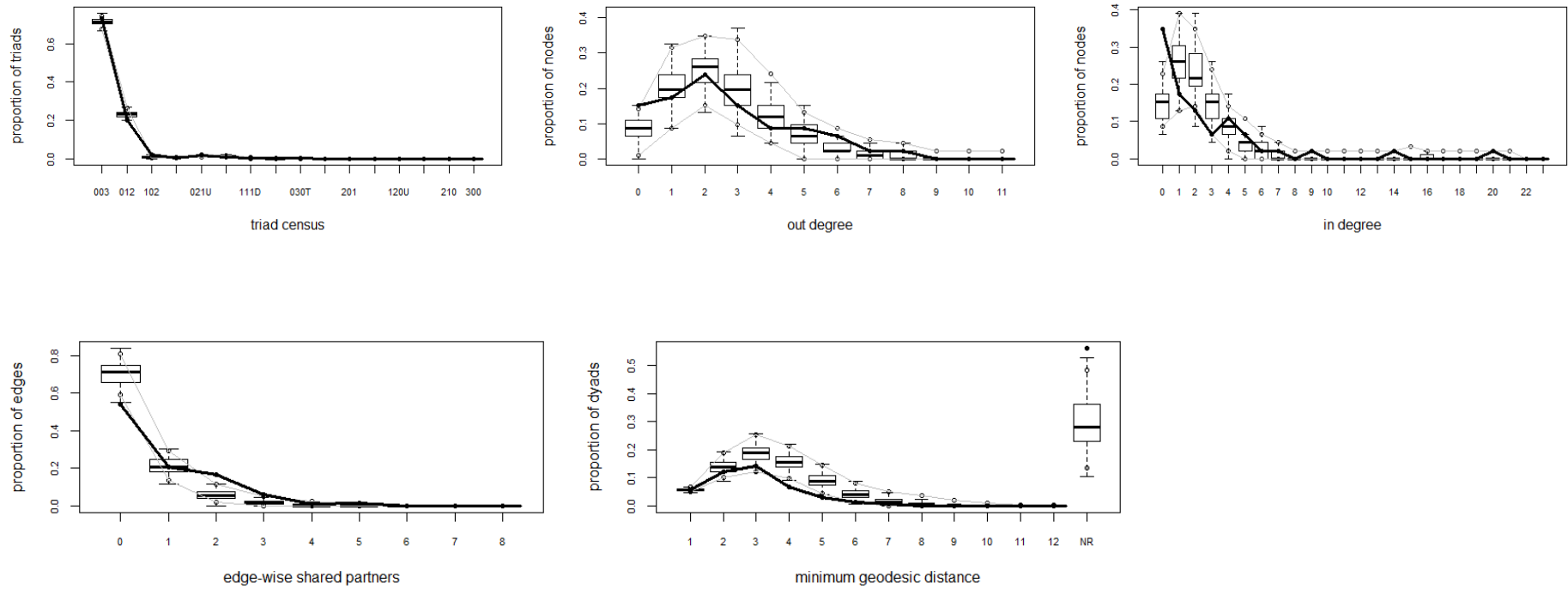


Figure B: Goodness of fit plots, model 2

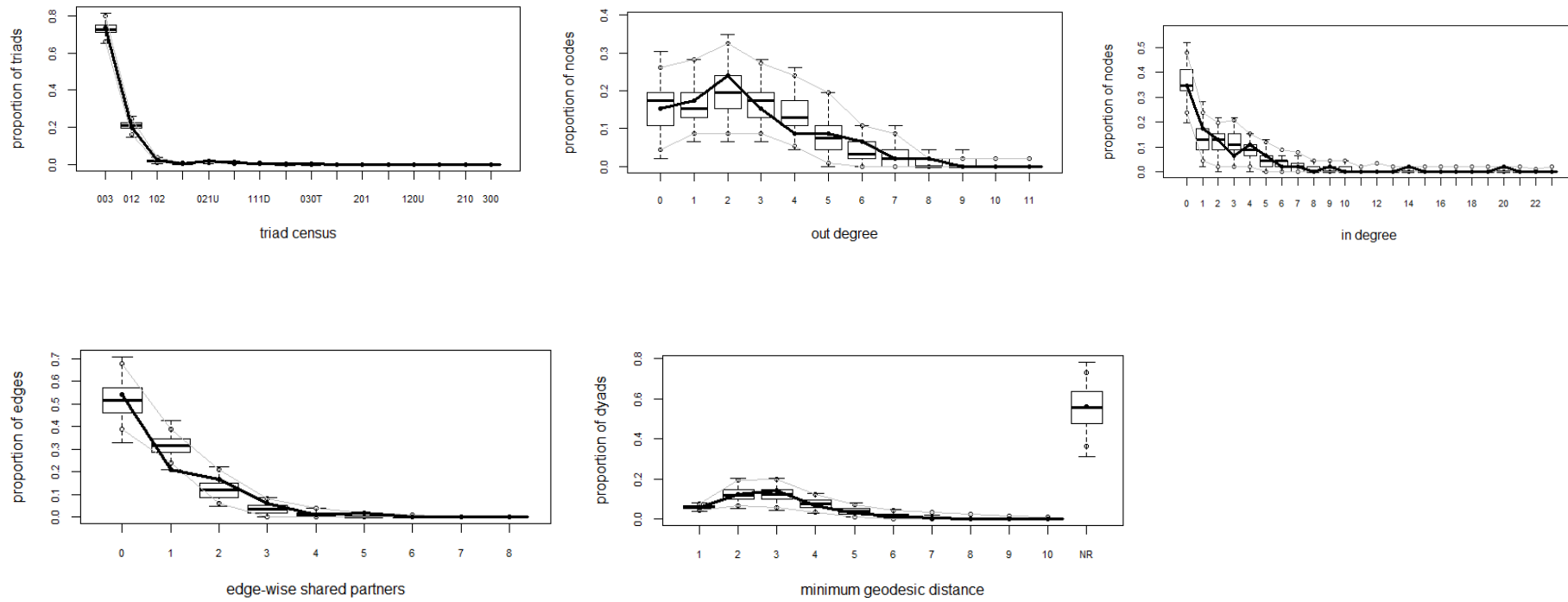


Figure C: Diagnostics model 2

