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CULTURAL COMMONS AND CULTURAL COMMUNITIES: THE CASE STUDIES OF MILAN DESIGNERS AND ITALIAN FUTURISTS ARTISTS

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Community based Cultural Commons

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Introduction

“Cultural Commons” refer to cultures located in time and space – either physical or virtual - and shared and expressed by a socially cohesive community. A Cultural Common is a system of intellectual resources available on a given geographical or virtual area. A Cultural Commons could be thought as the evolution of the more traditional concept of cultural district or cultural cluster.

Ideas, creativity and styles of a community, traditional knowledge, credence, rites and customs, shared and participated productive techniques define a Cultural Commons. Some examples are: the image of a city, a local language, the brand of Barolo wine, an artistic movement, user generated contents on the web, traditional knowledge held by indigenous communities, and the creativity expressed by designers' and artist's communities. In this paper we will tackle the problem of Cultural Commons from two points of view; first of all we will propose a definition of what Cultural Commons are. From this descends that C.C. can show different evolutionary path, but at the same time that the presence of C.C. may have different effects on the "performance"/"success" of the individuals agents who are part of the community. We will study both the evolution and the "performance" with respect to two C.C.: the Milano Designers Community and the Futurism Artistic Movement.

1. Defining Cultural Commons

Definition. A Cultural Commons is a *social dilemma* defined by the confluence of three phenomena: *culture, space* and *community*.

Like in the case of the *Arte Povera* movement, the Mumbai film making community and other Cultural Commons, the *social dilemma* identify with the uncertain transmission of the Commons to the next generation. As it will be shown below, the fading of new ideas nurturing the cultural community, can make the culture of the Commons stationary.

Two frameworks. Among its basic characteristics can be found its public goods nature, and its endless carrying capacity. Fig.1 shows how some essential characteristics of culture, space, and community can be combined to define two different frames for cultural commons: virtual and physical.

In the *virtual one*, in blue, the community is spread and can cover all the world, the space is virtual, mostly created on line, and the culture is global crossing races and continents. To produce and communicate a cultural commons, like “*Facebook*”, a sophisticated technology is needed: ICTs, pc, web, software, as well as creativity and innovations. This technology makes the space virtual and the community international in its possible connections.

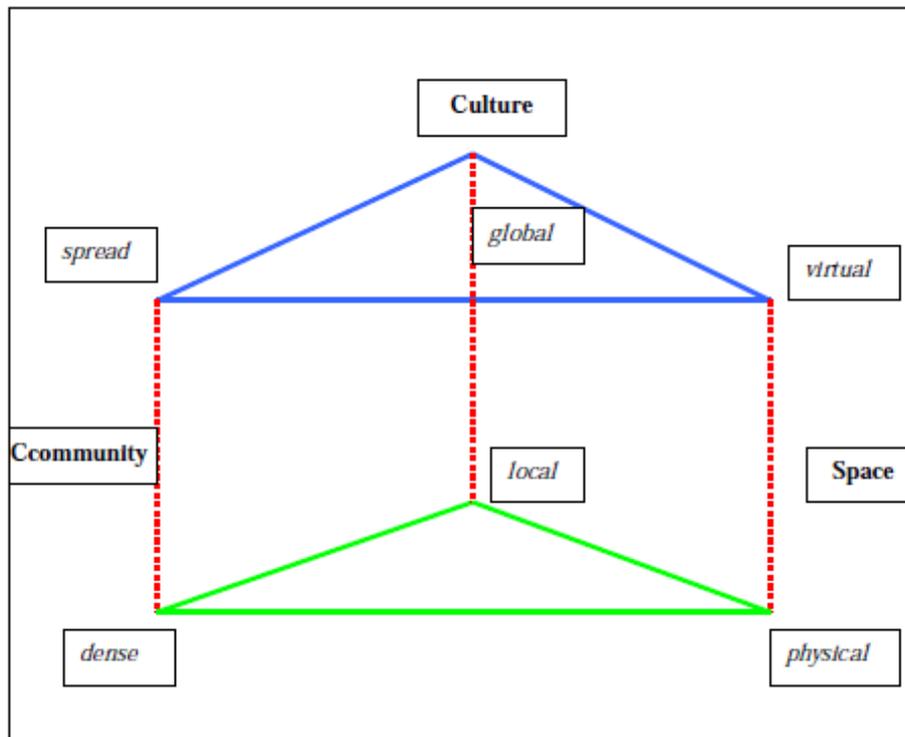
In the *physical one*, in green, community is dense and cohesive, space is physical, identified on a specific geographic area, and culture is local. To produce and communicate a special mode produced in a cultural district both low technologies (fire, water, wood for ovens, and colours), and manual dexterity, like in the pottery cultural district of Caltagirone, Italy, or high technologies like in the movies making Hollywood cultural district, are used accordingly. The original community is localized, cohesive and working on the same product according to a traditional local culture. This notion of Cultural Commons is very closed to that of Cultural Districts (Santagata, 200...).

Carrying capacity. Which are the main theoretical differences between Commons and Cultural Commons? As said, Cultural Commons do not suffer from limited *carrying capacity*. Their carrying capacity, as public goods is endless: consuming culture does not reduce its total amount for the others. They are non-rival in consumption. A music or a poem can be consumed, plaid and listened without any limit. There is no exhaustion of the cultural common pool resource.

On the contrary, as it is known (Hardin, 1968; Ostrom, 1990,1992,2002) a natural common pool resource has limited carrying capacity. This give raise to the over-exploitation of the common resources through the negative externalities deriving from individual rational behaviour. Private interests and open access are phenomena that do not take into account their external negative effects on the

resilience of the commons. This calls for a government ownership regulating the economic activities, for private property or for self-organized resource governance (Ostrom,1990, Lam 1998).

Fig.1 Two main frame for Cultural Commons



Social dilemma. Beyond this technical difference it should be stressed that while Cultural Commons focus upon the analysis of the behaviour of *contributors*, the Commons are analyzed in terms of the rationale of self-damaging choice of the *appropriators*. While contributors are in contact and develop strong relations within the community, as the case of *Milano industrial design* and *Futurism* will show, appropriators are usually described as independent do not communicating each other, nor coordinating their activities (Ostrom, 2002).

Individual and collective contributions must be effective because the transmission of a Cultural Commons to the next generation depends on the capacity of cultural development of the community, i.e. on the increase of the accumulated stock of cultural capital. Without reaching an optimal development rate, culture tends to become stationary, without any dynamic force moving it forward to the next generation. As corollary of this issue comes the distinction between stationary and cumulative culture, and the notion or cultural resilience (Levy-Strauss, 1952, 1971).

Externalities and free riding behaviour. Other important differences between Cultural Commons and Commons is the nature of the externalities produced. While in the Commons case arise a negative externality charged to others because of the over-exploitation of the common pool resource, in the Cultural Commons there is a production of a positive externality. In a world the externality here stands for the reputation enjoyed by the community, produced by the effort of everyone and shared as a public good.

It can be wondered if in such a situation there are incentives to free ride (Olson, 1965). First of all it should be noted that there is a perfect symmetry and positive correlation between the production of the private reputation, privately appropriable, and the reputation of the Cultural Commons. The more the value of the private reputation increases , the more increases the value of the common reputation.

In this case every one wants to maximize his/her own reputation, selling to highest prices, being invited to exhibit in the best museums, having success into the market, etc., but doing this, *malgré lui*, makes the externality to grow. We are in a situation opposite to that of common pool resources. In other words individual should be non rational if they would reduce their effort because this way they would reduce their personal reputation. The agents of a Cultural Commons are notwithstanding in competition each other and the positive externality is compulsorily a by-product of their private action. Moreover usually there is not an effective enforcement of the free riders' behaviour. The main action against the deviant behaviour is the expulsion from the community. The expulsion of Pinot Gallizio from the *International Situationist* movement is an old example. In any case the expulsion was not the consequence of Gallizio's free riding behaviour, but of the infringement of a rule of the group, namely not to exhibit their works of art in public museum expositions. These phenomena can be better explained, as we shall see, with the positive externalities framework and a peer pressure function.

Evolution of Cultural Commons. The tragedy of Cultural Commons is to disappear because of continuous lack of new cultural inputs. Languages are dying, communities of artists are disappearing in contests very different from the well known case of the exhaustion of common pool resources, first discovered by Hardin (Hardin; Ostrom).

According to which rationale Cultural Commons rise, fall and survive? In particular: does empirical evidence show the existence of standard pattern in Cultural Commons life-cycle? Is it possible to identify the causes of a Cultural Common decline? Does creativity fosters the development of Cultural Commons?

In the case of a *cultural common* its survival depends on the production of an optimal quantity of culture to aliment the contribution in favour of the next generation. The transmission of a *cultural common* to the next generation depends on the stock and flow of local culture, i.e. on the increase of the accumulated stock of culture. Without reaching an optimal rate of contributions a culture tends to become in absolute terms stationary, without any dynamic force moving it forward to the next generation. While in the classic case the problem is that of over-production leading to the exhaustion of common pool resources, in the cultural common case the problem is that of under-production of cultural inputs.

Cumulative Culture vs. Stationary Culture. Levy-Strauss was among the scholars which pointed out the difference between stationary and cumulative history (Levy Strauss, 1952, 1971, ch.6). His point of view is mainly relational and points out the drawbacks hidden into the notions of cumulative and stationary.

”Nous considérons ainsi comme cumulative toute culture qui se développerait dans un sens analogue au nôtre, c'est-à-dire dont le développement serait doté pour nous de signification. Tandis que les autres cultures nous apparaîtraient comme stationnaires (...) parce que leur ligne de développement ne signifie rien pour nous, n'est pas mesurable en termes du système de référence que nous utilisons.» (p. 70)

He tries to explain that some culture seem to be stationary and without signification and information for us just because they are different “... et ne tout simplement parce que nous ne nous ressemblons pas.”(p. 75) So, according to the chosen parameter, for instance the energy *pro capita* or the degree of survival to hostile climate contests, we elaborate different scales of preference about cultures, saying that western cultures are superior or that Nordic cultures are superior.

If we think in absolute terms, stationary cultures are those that do not evolving *per sé* are not able to feed their continuity into the next generations. On the contrary a cumulative culture is nurturing itself through continuous, incremental and creative additional inputs. According to which rationale cultural commons rise and fall ? When the stationary character prevails over the incremental cumulativity. Interesting cases studies are coming from languages, craftsmanship, music and dance, art, and technologies can illustrate this point.

The basic conditions for cultural cumulability is the possibility of an incremental process. In general

“knowledge is cumulative.” (Hess and Ostrom, 2007), but in some negative case the production of knowledge is limited by environmental, military, social or political reasons.

About the evolution of Commons based on virtual space. When a Cultural Commons is based on virtual space new characteristics become dominant:

1. *The entrepreneur and the Cultural Commons.* In such a cases there is usually an owner and a firm selling of a service. Around the service a community can emerge: be a videogame, a service like that provided by *Facebook*. The entrepreneur is driving his/her firm according to the market rules.
2. *Birth and death of the Cultural Commons depend on market.* During the span life of this kind of Cultural Commons we can assist to the exhaustion of the supply, for instance because of no more innovations, or the exhaustion of the demand, for instance because of change in individual tastes.
3. *Scaling-up problem.* Virtual space means a big increase in the community's members, which becomes more difficult to govern. The members are less compliant with the rules, and the power of enforcement decrease (Ostrom et al., 1999).
4. *Cultural diversity challenge.* The more the community's members the more the expected cultural diversity among them, the less “the likelihood of finding shared interests and understandings” (Ostrom et al., 1999).

A cyclical evolution ? The evolution of the community based cultural commons in which are coexistent physical space, local culture and dense – i.e. the type 1 discussed before - relations could follow a general pattern made by five phases.

1. At the origin there is the spark of an artistic input, which connects artistic ideas to the specific nature of the commons (be the industrial design, an artistic painting movement, a film movie wave). This phase corresponds to the conception of the new common cultural ideas.
2. The second phase is played by the institutions, mainly public and local. It can be illustrated by the set up of public international expositions or contexts, by establishing special prizes and launching magazines and books and reviews. The aim of this phase is to create reputation for the emerging cultural commons.
3. The third phase is devoted to the creation of social structures of production and product conception, be associated studios, or laboratories, or individual ateliers in which the new style or the new ideas multiply. This is the moment in which the original ideas of the commons consolidate and new followers are attracted.
4. A possible fifth phase corresponds to the birth of firms producing commodities and service linked to the aesthetic philosophy of the cultural commons. This phase corresponds to the entrance into the national and international markets and the use of reputational externalities created into the commons.
5. Finally, both for biological and economic reasons, a phase of decline can follow. Here the core problem is how to keep constant the social rate of creativity between generations.

Then a new cycle is expected to restart with new artistic ideas innovating the field. Of course such a pattern must be adapted to the different situations. In the virtual case it could be that instead of an art spark, like in the Milanese designer community illustrated below, what is at the origin of a cultural commons is a new technology coupled with an organizational idea, like in the case of Facebook.

A community cultural commons is a collective participated procedure. Around it a market arises with its public and collective dimension: ethic, moral, economic policies, economic institutions, localized activities

(shops, museums), training and education. The effects of supply, demand and institutions on a well defined territory gives rise to a social phenomenon.

When looking at the symbolic content of Cultural Commons, the internal dynamics of the community could be examined from another point of view. There exists "field of forces" *à la Bourdieu*? Which are the main axes crossing the commons? Who is in the dominant position? Which are the strategies both of those willing to enter and of those willing to maintain the *status quo*?

2. A cultural Commons as an evolutionary stable game

A formal though simplified way to tackle this problem is to analyze it in terms of evolutionary stable games.

At the origin there is the spark of a new artistic idea or "trait"; for example think of the first manifesto of the futuristic movement as opposed to the then prevalent aesthetic criteria; pop-art vs abstract expressionism, neo-classicism vs baroque and so on; how does this become the base for a cultural common?

Let's assume there be one of two mutually exclusive traits (x and y) present in each member of a population; they can be adherence to different behavioural rules, tastes or any other durable aspects of behaviour that affects payoffs. They can be also be viewed as cultural traits (acquired through learning rather than through genetic inheritance). Suppose that members of the population are paired to interact in a symmetrical two-person game, the pay-offs of which are denoted by $\pi(i, j)$, the pay-off of playing trait i against a j -playing partner. For any population frequency of the x trait, $p \in [0,1]$, the expected pay-offs are thus:

$$b_x(p) = p\pi(x, x) + (1-p)\pi(x, y)$$

$$b_y(p) = p\pi(y, x) + (1-p)\pi(y, y)$$

At the beginning of each period, some fraction α of the population may update their trait upon exposure to a "cultural model"¹. The remainder of the population does not update irrespective of their experience. If the cultural model and the individual have the same trait, it is retained by the individual; this will happen with probability p and $(1-p)$ for the x 's and the y 's respectively.

Now consider a cultural model (be it a y -person characterized by a cultural trait or idea) and an individual x -person who experienced pay-offs B_y and B_x respectively in the previous period. A small difference in pay-offs need not induce a switch or even be noticed; so we say that with probability $q(B_y - B_x)$ the x -person will switch if $B_y > B_x$, otherwise he does not.

Letting $\rho_{y>x} = 1$ if the pay-off of the y -person exceeds that of the x -person and zero otherwise we can write the expected population frequency with trait x at time $t + 1$ as:

$$p' = p - \alpha p(1-p)\rho_{y>x}q(b_y - b_x) + \alpha p(1-p)(1-\rho_{y>x})q(b_x - b_y) \quad (3)$$

And doing the equivalent calculation for the y -person and rearranging we get:

¹ A possible variation of this model would be to consider that, when individuals with different cultural traits are paired, with a given probability one or both change their traits into a new one (say z). This process, which we can label as *hybridization*, is a partial explanation of cultural creativity. In this case, the traits present in the population tend to increase and their equilibrium frequency needs more sophisticated models to be calculated. Although the hybridization process is at the very base of evolutionary phenomena, we will not tackle this problem in this paper.

$$\Delta p = p' - p = \alpha p(1 - p)q(b_x - b_y) \quad (4)$$

Writing $\bar{b} = pb_x + (1 - p)b_y$ as the population average pay-off, eq.(3) can be written as:

$$\Delta p = \alpha pq(b_x - \bar{b}) \quad (4')$$

From eq.(4) can easily be calculated the stable equilibrium proportion of the two type in the population, and these depend on the initial proportion of the x and y traits, on the difference in the two pay-offs and on the responsiveness parameter α . So the community will be more or less homogeneous according to these parameters.

As eq.(4) makes clear there are two components that affect the evolutionary process: variance, $p(1 - p)$ and selection, $\alpha q(b_x(p) - b_y(p))$.

In what follows we will argue that the value of these two variable in cultural commons is such that greater homogeneity generates higher cohesion and therefore better performance of the group.

Cultural commons are also the results of the evolutionary process described above; in equilibrium both the variance and the selection component of a sub.group are relatively small and this tends to remain relatively stable (being the stable equilibrium of the evolutionary process). Traits and sets of value being very similar, the degree of homogeneity within the group is very high.

First of all notice that the evolutionary process described above can have multiple equilibria: it can give only one stable equilibrium (in this case the Cultural trait is common to the whole of the society, but it can give rise to different evolutionary stable trait-equilibria and society will show a variety of sub-groups or commons.

The possibility of arising of multiple equilibria depends on the responsiveness parameter α and on the other parameters of the model. The value of the responsiveness parameter can be seen as explaining the difference between cumulative and stationary cultures *à-la* Levi Strauss: a value of zero would give rise to a stationary society while the opposite is true for the unity value.

Why and how will a cultural common decline in this context?

Imagine the raise of a new cultural trait as an exogenous shock, then the process will give rise to a new set of evolutionary stable equilibria which could not include the one characterized by the original common.

Once a cultural community has been established, then the organizational problem arises; the necessity to set up of public international expositions or contexts, to establish special prizes and launch magazines and books and reviews. All the other phases described in the previous section follow. It is at these stages that group cohesion becomes very relevant and it is at these stages that performance of the group can be measured.

3. Cultural Commons evolution: the Milano Designers Community

The history of the so called “Milanese Culture of Design” represents an interesting example of Cultural Common and of the interrelation between a Common and an institutionalised industrial district.

The evolution of Milan’s Cultural Common of design is apparently a mix of institutional choices and market prescriptions. However, when comparing the Milanese experience with other design-intensive Italian and European economic regions, some peculiar characteristics emerge, permitting us to identify Milan’s design community as a Cultural Common and to distinguish today’s design industrial district

from the network of actors which, by their interaction, created the basis for the success of Italian furniture design.

To give a precise measure of how many designers operate today in Milan it is not an easy task. The number of members of design associations² can give at least an idea of the number of professionals: 895 association members out of the 2,100 at national level are in the Lombardy region and, of these, 644 are in the province of Milan. The NACE codification give us a figure of the firms operating in the design and styling of textile, clothing, footwear, jewellery, furniture and other personal goods for the home: in Lombardy operate 1,024 entities (nearly half of the Italian total) and, of these, 499 are in the Milan province.

With regard to the manufacturing system, Lombardy counts more than 120 thousand “Made in Italy” companies (25% of the national total amount). The wood furniture manufacturing district in Brianza on its own can rely on 4,500 companies and 25,000 employees with an annual turnover of 4 billion euro (Design/focus, 2006).

The origin of what today is worldwide known as “Made in Italy” and the successful liaison between designers and the entrepreneurial community that took place in Milan has its roots on a collective pool of knowledge which expanded during the last fifty years by interaction among the different actors involved.

For this reason it has been argued (Bosoni, 2002 et al.) that the strength of this particular creative milieu – a real widespread laboratory – relies on its origins, not intentionally designed and not institutionalised as the planning action “develops at the same time in the material world of products and processes and in the social sphere, in the places of collective interaction, passing through the filters of communitarian rules and of shared tacit or explicit knowledge.” (Bosoni, ...).

In particular, when looking at the history of the Milanese Cultural Common - starting from the Twenties until nowadays—five successive and coordinated phases can be identified (**Fig. 2**). The analysis of this pattern permits to single out, from a theoretic point of view, some intriguing characters of the evolution of community-based Commons.

The origins: art, architecture and design

A first outline idea of an “Italian design” can be found in the above described artistic movement of the Futurismo. In its first period, the Futurismo is very tied to traditional artistic expressions such as painting and sculpture but since 1915 some artists, and in particular Fortunato Depero (1892-1960) and Giacomo Balla (1911-1958), became increasingly interested also in industrial production as a new field of expression and research: art comes into objects to upgrade everyday life (“art-life”). Depero played a major role in this phase opening *de facto* that liaisons between art and industry (but still with an artisanal conception rather than a mass-market one) which was also theorised by the international manifesto *Ricostruzione Futurista dell’Universo* (1915).

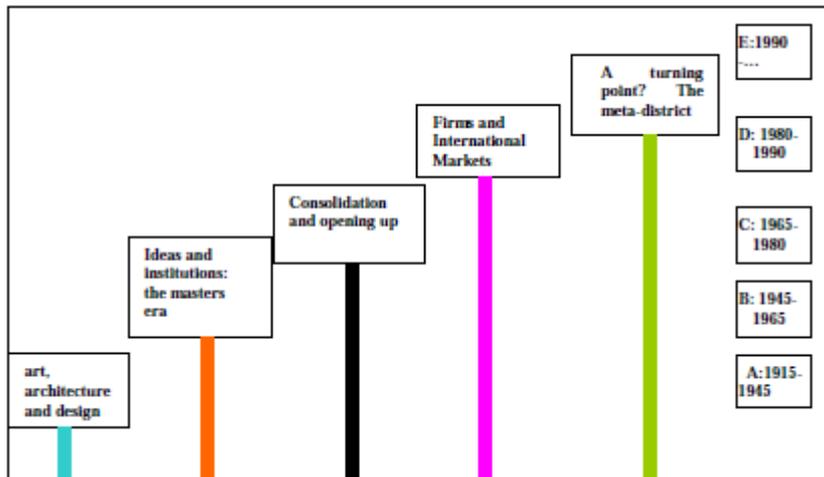
On the one side Futurism, on the other the interlacing aesthetic researches of Functionalism and of the group of architects adhering to the *Novecento* movement such as Gio Ponti and Giovanni Muzio: this elements found a rich soil in Lombardy and in particular in the Brianza region first – the oldest Italian furniture district (dates back to 1859) –, and then in the contiguous Milan, the most active and modern Italian city at the beginning of the XX century.

What characterised this first phase, that we ideally place before 1945 (A in Figure 2), was the construction of a space, both physical and conceptual, in which these new ideas could be shared and evolve: design was not yet an economic sector nor an academic discipline. This space was represented precisely by the Monza Biennale (1923, 1925 and 1927) first and by the Milanese Triennial then

² ADI, AIAP, AIPI, AIPIPROMES, SIE, ADOR.

(starting from 1933), but also by a number of magazines such as Domus, created and directed by Ponti in 1928, La Casa Bella (1928) and Stile (1941). Biennales and Triennials had the main objective to stimulate the interaction among industry, productive milieu and applied arts.

Fig. 2 - The historic pattern of the Milano Designers Community



A first generation of Milanese architects/designers – we here think to Gio Ponti, Giuseppe Pagano, Franco Albini, Luigi Caccia Dominioni, Achille and Pier Giacomo Castiglioni – engaged itself as mediators in the construction of this space.

In other words they contributed to the raise of a number of institutions able on the one side to incentive creativity and “learning by interacting” (Lundvall et al., 2002), on the other to create and spread information and reputation for those that – after this first phase highly experimental and programmatic - will emerge as the stars of Italian design in the post-war reconstruction and during the Fifties. The economic component was at that time still quite marginal.

Ideas and institutions: the masters era

During the Fifties this economic side grows stronger: in 1946 begins RIMA (Riunione Italiana Mostre di Arredamento), in 1947 opens in Milan Azucena, first Italian store that produces and sells design objects and furniture, and in 1954 the most important tool to promote and sell the new products of the Italian design is established: the Compasso d’Oro. The exchange platform on the cultural side remain the Triennials (in particular the 1951, 1954 and 1957 ones) which have the role to bring together designers, industry and the public (De Fusco, 1985).

The phase that goes from the Fifties to the Sixties (B. In Figure 2) can be considered as the golden age of Milan’s design from a creative point of view. “From the shows of the Triennials to the competitions organized by the Brianza exhibition centres, from the initiatives of the La Rinascente department stores [...] to the Milan Fair which initiated the Furniture Salon in 1961 and onwards up to the competitions organized by magazines in the sector, everything moved to create a production and marketing system targeting the domestic sphere” (Bosoni, 2002). New producers – often lead by their farsseeing and culturally involved founders– came onto the scene: Kartell (1949), Zanotta (1954), De Padova (1956), Artemide (1961) just to name some of the Italian names of excellence.

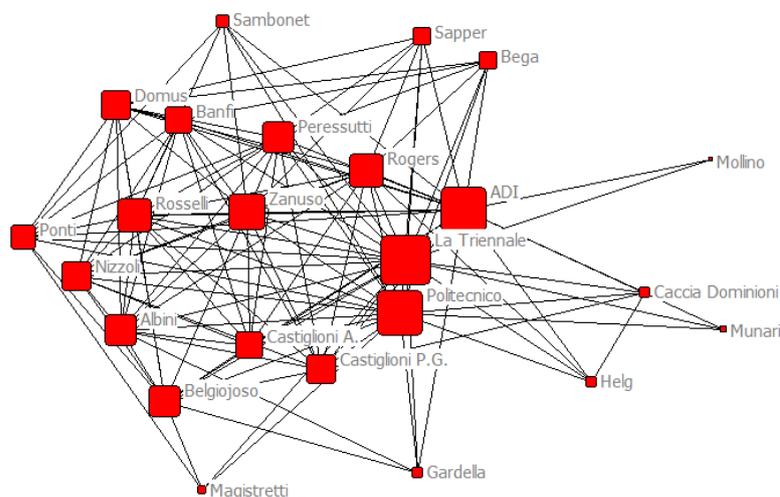
The net of the Common also seems to be at the peak of its density in a thick exchange among architects, designers and institutions. This situation can be described by Figure 3 which shows the net of these relations: not only the network presents a very strong cohesion – the overall density is 0.8 on

a scale from 0 to 1 – but shows the centrality of the institutions in which collective interaction takes place and of the Triennial in particular.

The design community takes here the structure of a “local-dense and physical” common and during this phase, the peculiarity of Milan’s design emerges prominently and is effectively supported by its representative institutions: its systemic nature, the plurality of actors, the continuous exchange between interior and exterior of the whole system and the osmosis with the entrepreneurial sphere.

The risk of conservatism is round the corner but in positive we find support and incentives, and a far-seeing or forward-looking vision. Institutions such as the Triennial and the Association of Industrial Design (ADI)

Fig. 3 - The network of the Milanese design common in the Sixties



Source: authors based on Pansera, 1978; Rocca, 1999; Annicchiarico and Morello, 2001; ADI, 2008; Vercelloni, 2008.

Consolidating and opening up

The institutional settings – which are created by the design Common and remain internal to it - gave reputation and visibility to the best designers. In 1972 the exhibition organized at the MoMa of New York “Italy: the new domestic landscape. Achievements and problems of Italian design” ratifies the historical and international importance of Italian design and the supremacy of furniture design on other design’s branches.

New designers come to enrich the established designer’s community taking with them new ethic and aesthetic proposals again coming from the art world - in particular from the Pop-Art – and, starting from the Seventies, many new architects collective offices are set up such as Alchimia (1976) and Memphis (1981).

A new generation of creatives is emerging, operating alongside the “masters”: this is the case of De Lucchi, Sottsass, Mendini and others. Each group represented at the same time an aesthetic proposal and a dense network of relations with firms and consumers. Their presence produce positive externalities involving not only individual carriers but also the professional image of the Milano Community. the productive structure as well became more and more consolidated.

(C in Figure 2).

Firms and international markets

The time for the success and global spread of the Italian design is fully come (D in Figure 2). Brands such as Alessi, Cappellini or Driade, add new impulse to the historic market presence represented by Kartell and others: moving from the creators to the firms is a required process to access the road to international markets.

Creators strengthen the productive units and vice versa but firms, which are the ones able to capture consumers' tastes, acquire here a new role both as talent scouts searching new international stars for the Made in Italy production system – lets think to Philippe Stark, James Irvine, Hans Hollein, Arata Isozachi and others - and as ambassadors of the Italian design on international markets. Creators' emotional design supports enterprises' emotional marketing.

The design district is now a reality but the leaders are growing weary and the generational turnover is looming high on the horizon. The Common need to open up to markets and to knowledge even if international economic gloominess is a risk.

A turning point? The meta-district

The final and present phase is typical of many artistic sectors and has two faces, one strictly related to the creative component and the other more concerned with the production system and with the present status of design international market.

The creative side deals on the one hand with its institutionalization and historicization and on the other with the transmission of creativity in design to the next generations.

The opening in 2007 of Milan's Triennial Design Museum, the progressive overlapping of (contemporary) art and design markets, the inclusion of design objects in the contemporary art auction world³, have been all signals of this process of historicization whose risk is an excessive tightening of the whole creative system. On the other side we assist also to a progressive functionalisation of the design common to the local production structure.

Some scholars have argued that the strength of the Milanese experience has been the absence of *a priori* scheme in favour of an involuntary "leopard skin-coat" strategy, springing out from the social interaction of many different actors: a process of collective co-production of values (Bosoni, 2002 and Maffei, 2002).

This because "behind the relationship between design activities and industrial districts is an original form of innovation in which the processes for creating the value and configuration of the products do not follow either a logic guided by the pure opportunity of the technological trajectory, nor are they modelled around the presumed needs of the market but instead are the result of a complex interactive dance of communities of specific practices of producers-users." (Maffei, 2002).

The challenge is then to renew the conditions that made this dance possible ensuring on the one hand the generational turnover of the creative class by the enforcement of the educational system (Santagata, 2007) and of the research in the design field, on the other renewing the mechanism that permit the "propagation" of the knowledge already available (Rullani, 2004) including also learning processes that occur forward the filière (Lundvall and Johnson, 1994). This will ensure the coexistence and the interaction among all different actors building up a creative lab on the territory, able to produce new ideas and to keep the Common alive: "Creativity feeds on system effects and on synergies among creators and institutions; objects creativity and organizational creativity stimulate one another" (Santagata, 2007).

³ In 2005 a table by Carlo Mollino has been sold at 3.1 million euro.

The institution of the of the “Design Metadistrict” (2001) seemed a first step made by the public sector in this direction. After identifying 21 industrial districts, Lombardy has been the first Italian region to classify also a number of “Medatistics” i.e. thematic districts for invention horizontally defined.

These districts are not geographically limited and present a strong inter-sectorial integration, characterised by a dense transfer of knowledge. In this sense the Design Metadistrict – which is spread over 65 boroughs in 6 Lombard provinces, contains 11 research centres and employs 44,958 people - can ideally be thought as the combination between the industrial district and the cultural common. The latter becomes, in this phase, “spread-global-virtual” (see paragraph 1) both in its form – with an increasing number of contributors coming from outside - and in its content with the explosion of design applications from the more traditional furniture design to new branches such as food design, communication design, territorial design and so forth.

4. Measuring Cultural Commons performance: network effects in the Futurism Movement.

4.1 Performance of Cultural Commons

What are the effects of Cultural Commons? The very idea of cultural commons is strongly related to that of a group (more or less extended). Group performance has been an important topic in team production. Researchers since the 1950's (Festinger, 1950) have examined the relationship between small groups and performance by analyzing how the members within the group interact with each another. These researchers suggested that the group interaction creates cohesion within the group and, the stronger the cohesiveness, the greater the productivity of the group (Cartwright, 1968). Since then, much emphasis has been placed on the importance of teamwork and its relation to performance (Beal, Cohen, Burke, & McIendon, 2003). However, while many researchers agree with the teamwork-performance relationship (Klein & Mulvey, 1995), other empirical studies on the relationship between group cohesion and group performance have had varied results (Stogdill, 1972).

From a theoretical point of view, we can explain these contrasting result with some elementary incentive theory; starting from Holmstrom (1982) seminal paper on team production all the successive works have had to tackle the problem of moral hazard and devise, with varying fortunes, incentive schemes which ensure second best results. So some of the results depend on the sharing rule (incentive scheme) adopted. A second strand of research has emphasized the role of mutual monitoring and that of Peer Pressure (e.g. Nolan H. Miller (1997) and Eugene Kandel and Edward P. Lazear (1992) respectively). However some problems remain, for example with regards to what generates peer pressure and how mutual monitoring works.

In this paper we intend to analyse how network and network characteristics deploy their effects in cultural production; in particular we want to isolate correct and robust descriptions of the functioning of a cultural network and describe how these can be correlated with its performance.

The first problem we have to tackle in our analysis is relative to the definition of performance in cultural production.

In cultural commons, artistic production has two conjoint outputs: a) the "private" output of the single artist and b) an externality effect which works either through "phame", "reputation" etc. of the group which benefits other artists belonging to the same movement or through mutual "inspiration", exchange of ideas which help the creativity process etc.

It is specially with regards to the phases 2, 3 and 4 described above that the cohesion and group production characteristics are particularly important.

To focus on this second effect it suffices to think of how the reputation of a group helps all the artists belonging to it in reaching the market, and how the creative process is very often helped by exchange of ideas, impressions etc. Imitation is a clear example of how artists try to appropriate of this external effect; but also on the joint effort to organize expositions, magazines, etc.

Being this, and according to the mainstream public economic theory we expect from a positive externality, (with some characteristics of a public good) an under-effort (production) equilibrium. In what follows we argue that the distortion due to the externality is somewhat reduced in cultural commons; so the first effect of the existence of cultural commons is to give rise to a more efficient level of effort.

4.2 Externalities and peer pressure.

Partnerships, which share even partially the result of their effort, are generally thought to have some incentive features that are lacking. After all, each agent bears the full cost of his or her own effort but does not take into account the social benefits his effort produces on others.

Assume that benefits to each agent is some function of his effort, e_i given by $g(e_i)$, but that there is some external benefit (for ex. in the form of group reputation) that depends on the joint effort of all the group e , $f(e)$ where e is an N-dimensional vector of agents' effort levels and N is the number of agents. Assume, for simplicity,⁴ that this external benefit is appropriated equally by all the agents as $\frac{f(e)}{N}$. Effort is exercised at a cost, and the cost for a worker is given by $C(e_i)$ where $C' > 0$ and $C'' > 0$. The sub optimality of the private solution can be easily seen in the following algebra. The agent will maximize his net utility:

$$\max_{e_i} g(e_i) + \frac{f(e)}{N} - C(e_i) \text{ with FOC: } g'(e_i) + \frac{f'(e)}{N} - C'(e_i) = 0 \quad (1)$$

Efficiency requires that total surplus be maximized or that:

$$\max_{e_i, e_j, \dots, e_N} g(e_i) + f(e) - C(e_i)$$

Whose FOCs are:

$$g'(e_i) + f'(e) - c'(e_i) = 0 \quad \forall i \quad (2)$$

Since $C'' > 0$, the equilibrium value of e_i in (2) is greater than that in eq. (1), for $N > 1$. This is the classical result for a positive externalities.

Now, assume the reward function of the agents is such as to maximize:

⁴ The results obviously will not change if the "sharing rule" were somewhat different.

$$\max_{e_i} g(e_i) + \frac{f(e)}{N} - C(e_i) - P(e_i; e_j, \dots, e_N)$$

where the function $P(\cdot)$ with $\frac{\partial P(\cdot)}{\partial e_i} < 0$ has been differently qualified as a Peer pressure

function, a utility of effort function and so on. It is usually interpreted as the result of the decomposition of the disutility of effort. The function $C(e)$ is the part of the utility of effort that is exogenous while $P(\cdot)$ is the part that is cultural and endogenous. The peer pressure function is an attempt to formalize the discussion of tastes. By making explicit assumptions about $P(\cdot)$, we can clarify the exact nature of the tastes required to explain a particular behaviour.

Under these condition the agent's problem gives the following FOC:

$$g'(e_i) + \frac{f'(e)}{N} - \frac{\partial P(e_i)}{\partial e_i} = 0$$

It is easy to show that when $\frac{\partial P(\cdot)}{\partial e_i} < 0$ and $C'' > 0$ the equilibrium effort will be higher than that determined in eq.(2).

Two crucial point are however left unanswered in this simple model:

- a) What determines the existence of function $P(\cdot)$, be it peer pressure (or appreciation) or utility of effort?
- b) What determines the shape of this function, in particular the sign of the derivative $\frac{\partial P(\cdot)}{\partial e_i}$?

One of the answers usually put forward in the literature is that this function descends from the desire to be appreciated and accepted as one of the community or from the absence of feeling of guilt and is

often determined by the social norms, i.e.: $P(\bar{e} - e_i)$, where $\bar{e} = \frac{1}{N-1} \sum_{j \neq i} e_j$.

In this case there is a unique and symmetric equilibrium as long as cost and production functions have the standard properties. For example, if P is linear in $(\bar{e} - e_i)$, P' is just a constant and the problem has a clear and unique solution.

However, it may well be also the case that in some groups, agents may be chastised by their peers for exceeding the norm; in this case $\frac{\partial P(\cdot)}{\partial e_i}$ may become positive and equilibrium effort will be even lower.

When does the presence of group production increases performance and internalize the externality?

The answer to this question should be obvious by now: it depends on the intrinsic characteristics of the group and on the nature of the $P(\cdot)$ function. We hold that the presence of cohesive Cultural Commons ensures that $\frac{\partial P(\cdot)}{\partial e_i}$ is negative.

4.3 Group performance in cultural production.

How this model applies to cultural production? After all, as we said, artists very often appropriate the results of their individual work and their outcome does not depend on their joint effort, so the free rider problem should not arise in their activity.

However, as we said, production in artistic movements often consists of a joint product; the appropriable (private good) direct output of production in the form of a work of art, and an externality (e.g. in the form of reputation, fame, ease of reaching the market, inspiration, etc.) of the output of one of the artist on the whole artistic movement.

The externalities in artistic movements constitute an important trait of artistic movements; so much as to raise the question of their importance in the very definition of "movements".⁵ How big are the benefits and costs of these externalities and how they are shared among the members of the group is what we are interested in this part of the paper. From this point of view cohesion and characteristics of the relations of the members of the group are important.

Group cohesion was first defined by Festinger (1950) who referred to group cohesiveness as "the result of all forces acting on members to remain in the group" (p. 274). Recent group cohesion research considers this definition in three parts; task commitment, interpersonal attraction, and group pride (Beal et al., 2003).

In this paper we want to argue that some of the problem encountered in team production theory in the economics literature are somewhat less relevant in cultural production and when we are in the presence of cultural commons. We conjecture that C.C. being characterized, at least in some stage, by strong cohesion and common cultural traits, present high task commitment, high interpersonal attraction and high group pride and therefore are able to internize all positive externalities and therefore produce an efficient level of effort and performance. To prove empirically our tenet we will examine the characteristics of the futuristic movement and correlate them with some measure of performance.

3.2 The futurism ; data set and indicators of performance

Futurism originated by a reaction to official art and natural verism; for this among other reasons, it has been recognised by critics as "the First movement to be called avant-garde, with its innovative strength that covers cultural and social behaviour, breaking away from past experiments, only to be and replaced by bold, stylistic and technical experimentation

The movement started with a *Literary Manifesto* in 1909, by F. T. Marinetti; followed a year later by a *Manifesto of Futurist Painting*, signed by G. Balla, C. Carra, U. Boccioni, L. Russolo.

In 1913, A. Soffici e E. Prampolini joined the Futurist Movement and contributed to create strong links with other European movements during the two world wars.

Prampolini, Bragaglia and Depero also contributed heavily to Futurist aesthetics in art and in scenography.

Futurism is conventionally classified into a First and Second Futurism. "The term 'Second futurism' was created in the late fifties; particularly by Italian historian and art critic, Henry Crispolti.

From early 1935, notable stylistic and remarkable ideological changes were apparent in the second phase of Futurism, due to the movement breaking away from the First Futurism and also because of the Regime policy in Italy at the time.

However, there was also a real difference of approach towards Futurism compared to what was declared in its manifests: First Futurism was designed to "bring art into life", it was, in fact, closed up in galleries and museums (except for the "Evenings").

Second Futurism instead, starting with Balla and Depero's *"Futurist Reconstruction of the universe"* in 1915, entered into everyday life through advertising, furnishing, theatre productions and fashion. This published manifesto represents two artists willing to take appropriate action for the reform of many areas in human activity. The two artists could see a sort of "total art", in which a key moment

⁵ We will not tackle this problem in this paper. It will be the subject of future research.

was the interdisciplinary between various artistic experiences. Indeed, art intervenes in every field of human life. Futuristic furniture took off, such as "*chair and table in lacquered wood*" (1939) by Giacomo Balla, or the "*coffee table inlaid with Buxus*" (1938-1939) Fortunato Depero or the famous futurist vests made by both, or modifiable clothing by James Balla.

From the beginning of the decade, Futurists "propulsor" and researchers from network strategies can also be considered as part of our panoramic art scene just as some of the European avant-garde movements, Dadaism, Surrealism, Arte Povera. The parable of Marinetti is exemplary, founder of Futurism, projected towards tireless work of propaganda, creating a truly international network that stretches from Russia to Portugal. A reality, which highlights (from data collection and analysis conducted) a dense network of trade not only within the network itself (artists belonging to the movement), which would consolidate the reputation and encourage more mass participation culture, but also an intense external network that amplified over time and space targets its network.

The data set we use to analyse our problem is composed by three correspondence collections in :

The MART museum of Rovereto and Trento (Depero Correspondence)

The Yale University Library – Beinecke Rare Books and Manuscript

The Getty research Institute, among its Special collections, has a special section on Marinetti, Correspondence and Papers.

In the first collection there are 1698 letters, while we used some 170 letters from the third.

Correspondence has been classified on different criteria:

- a) Sender-receiver
- b) Content: Artistic; Personal; Business.
- c) Date

On the other hand, as a first measure of performance, we used the market prices quoted in ArtPrice.com.

Provisional empirical results:

Some descriptive Statistics:

Density: Density is simply the ratio of the number of connections that are present divided by the number of pairs - what proportion of all possible dyadic connections- are actually present. Since in our case the data are symmetric, density is calculated as the number of connections relative to the number

of unique pairs $d = \frac{n \times (n - 1)}{2}$ where n is the number of actors.

We calculated density on all aggregated contents but also on the single content of the letters:

Density of network **all dimensions** (max=1): 0,48

Density of network on **artistic dimensions**: 0,465

Density of network on **personal/friendship dimension**: 0,26

Density of network on **Business dimension**: 0,04

Cohesion: As a measure of cohesion we use the degree of correlation among the rankings of different objectives/actions for the individuals belonging to the group.

In order to construct such an index, we take the set of variables target for the network; every individual will have a preference ordering on them. Transform the ordering in ranks, and calculate the correlation matrix of the rank vectors. By adding all correlation coefficients and dividing by the number of agents

squared, we will have an index $C = \frac{\sum_{i=1}^n \sum_{j=1}^n r_{i,j}}{n \times n}$, where $r_{i,j}$ is the correlation coefficient between the

rank of individual i and that of individual j ; $C \in (0,1)$, with 1 indicating perfect correlation-homogeneity of intents and zero indicating absolute heterogeneity among agents. So we have ranked the dimensions of communications for the agents according to the number of correspondence acts dedicated to artistic discussion, personal communication and business content. Rank n.1 was attributed to artistic interests for example if an artist displays the highest percentage of communication acts on that dimension, and so on.

Then we calculated an index of cohesion according to the previous formula.

Index of **cohesion** (max=1): 0.902

Centrality: It is calculated as the number of "contacts" (correspondence) of one artist divided by the total number of contacts in the database. The conjecture behind its use is that, the more the "centrality" of an agent the higher his/her "salience" in the group and the higher one can expect the Peer pressure on him/her. Therefore the higher his/her effort. If this conjecture is true one should observe a positive correlation between centrality and performance.

Our data present a statistical bias since they are based on Depero and Marinetti correspondence; one therefore may expect that these two individuals will show a higher centrality than others. Furthermore, neither of them is mainly a painter. In the correlation we have therefore excluded these two agents.

Index of Centrality

Futurists	A) Index of Centrality-All dimensions	B)Index of Centrality-Artistic Dimension	C)Index of Centrality-Personal Dimension	D)Index of Centrality-Business Dimension
balla	0,06	0,07	0,11	
boccioni	0,11	0,13	0,15	
baldessari	0,05	0,10	0,07	
crali	0,22	0,18	0,42	
depero	0,40	0,35	0,35	0,17
dottori	0,09	0,09	0,15	
fillia	0,06	0,08	0,03	
prampolini	0,10	0,13	0,04	
severini	0,35	0,38	0,25	0,83
sironi	0,01	0,01	0,00	
carrà	0,18	0,23	0,07	
marinetti	0,33	0,21	0,32	0,67
russolo	0,05	0,05	0,01	0,33

Correlation Coefficient between Average price and Index of Centrality (without Depero and Marinetti)

Average price-Index A): 0.43

Average price-Index B): 0.50

Average price-Index C): 0.10

Average price-Index D):

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