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LOST IN MAINSTREAMING? AGRIFOOD AND URBAN MOBILITY GRASSROOTS INNOVATIONS WITH MULTIPLE PATHWAYS AND OUTCOMES

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Lost in mainstreaming?
Agrifood and urban mobility grassroots innovations with multiple pathways and outcomes.

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Abstract

Grassroots innovations provide a significant contribution to sustainability transitions. They differ from other innovations as they originate in civil society and are mostly inspired by ideological values.

While there is extensive literature on the embeddedness of grassroots innovations at the local scale, there is a lack of systematic analysis in the most prominent processes at supra-local and global scale, including mainstreaming. The mainstreaming of grassroots innovations is often characterized by ideological conflicts between (both grassroots and non-grassroots) actors that can give rise to multiple pathways, corresponding to different interpretations and divergent practices of the same grassroots innovation.

This paper investigates two issues that are not considered by the relevant literature: 1) the factors underlying the generation of multiple pathways of the same grassroots innovation; 2) the relationship between the dynamics of each pathway and its outcome. Six agrifood and urban mobility grassroots innovations are considered: Fair Trade, Organic, Veganism, Carsharing, Cycling, Shared Space; their analysis is carried out through longitudinal global scale case studies.

The comparison between the case studies put in evidence some recurrent patterns between the dynamics and outcome of grassroots innovation pathways. In particular, the presence of bifurcations resulting in multiple pathways is systematic and is always linked to mainstreaming. In terms of outcomes, a trade-off is observed between the congruence with original values (usually high in non-mainstreaming pathways and low in mainstreaming pathways) and the level of empowerment (usually low in non-mainstreaming pathways and medium-high in mainstreaming pathways). Compared to Big Firms, the involvement of institutions into mainstreaming results in less pronounced trade-offs and greater empowerment.

Keywords: grassroots innovation, mainstreaming; agrifood, urban mobility
Jel classification: O35, L91, L66

1. Introduction

The blossoming of environmental consciousness in the 1960s has been assisted by the development or resurgence of innovations oriented toward sustainability. An important part of these innovations came from the civil society, rather than from research labs. Some of these Grassroots Innovations (GIs) are considered today as milestones for sustainability transitions.

GIs are generally interpreted in literature as niches, whose peculiarity is that their protected space is created by culture and values and that they mainly develop through collective − community based − action. Within this broad definition, the GI concept include varied types of initiatives, dedicated to specific product (e.g. solar collectors) or practice (e.g. veganism), or that incorporate different actions for sustainability (e.g. Transition Town).

The global spread of some GIs, and their entry in the agenda of national and supranational institutions (as well as corporations) received limited attention by the literature, that mainly focuses on local applications. This is understandable, considering that GI initiatives – and their core drivers – mostly unfold through locally embedded dynamics (Feola and Nunes, 2014). However the analysis of some important supra-local GI processes remains in the shadow. With the aim of filling such a gap in the literature, this paper delivers a global analysis that highlights the existence of multiple GI pathways (White and Stirling, 2013), i.e. the unfolding of a single GI in different directions, in particular between entry into the mainstream and resistant or lateral paths. The mainstreaming of GIs is an issue already present in literature, but its systematic analysis is missing (Hossain, 2016).

Moreover, considering that (often strong) ideological conflicts are at the heart of bifurcations between mainstreaming and alternative GI pathways, our analysis is focused on two issues.

1. Networking. In particular we give attention to the interactions between those (both grassroots and non-grassroots) actors, who support different interpretations of the same GI (Hoppe et al., 2015).
2. GI outcomes. In particular we go beyond the dichotomous concept of success/failure by proposing a multidimensional concept of outcome, that also considers the congruence with initial values (Hermans et al., 2016).

As a consequence of all the above considerations, we investigate the generation of multiple GI pathways, and analyze the relationship between the dynamics and the outcome of each pathway. All this is synthesized in the following research questions:

RQ1: What factors generate multiple GI pathways?

RQ2: What are the relationships between such factors and GI outcomes?

The answer to the research questions is pursued through the analysis of six GIs; results of such analyses are then compared in order to find any possible regularity or recursive pattern. Case studies are taken from the food sector (Fair Trade, Organic, Veganism) and from the domain of urban mobility (Carsharing, Cycling, Shared Space).

The rest of the paper is organized as follows. Sections 2 and 3 offer a review of the GI literature and describe the methodology of case studies, respectively. Case studies are presented in Section 4. In Section 5 results of the case studies are compared. Section 6 draws the conclusions.

2. Literature review

Research on GIs developed in the last decade (Hossain, 2016), mainly within the socio-technical analysis of innovation. In particular it has been analyzed using the following approaches: Multi Level Perspective (MLP) (Ornetzeder and Roharcher, 2013), Strategic Niche Management (SNM) (Seyfang and Longhurst, 2016; Harms and Truffer, 1998; Hargreaves et al., 2013), Transition Theory (Seyfang and Haxeltine, 2012; Feola and Nunes, 2014), and Sustainability Transitions (Sengers et al., 2016). In these contexts, GIs are mainly considered as niches, i.e. protective spaces for path-breaking innovations (Smith and Raven, 2012). Research highlighted as main areas of action for GI the following sectors: food (Smith, 2006; Kirwan et al., 2013; Feola and Butt, 2017), energy (Doci et al., 2015, Seyfang and Haxeltine, 2012; Hargreaves et al., 2013), transportation (Truffer, 2003), currencies (Seyfang and Longhurst, 2013a, 2013b, 2016) and housing (Tang et al, 2011).

In his literature review on GIs, Hossain (2016) identifies, among the different existing definitions (see, for example, Seyfang and Smith, 2007), a consensus on considering a GI as a "bottom-up approach for sustainable development" (Hossain, 2016, p 974) i.e. promoted and disseminated by citizen or local actors rather than by powerful actors, such as big firms or the State. A handy way for defining GIs is by difference with innovations promoted by firms, institutions or research labs. In particular GIs "are driven by ideological commitment rather than profit seeking; the protected space is created by values and culture [..]; they tend to involve communal ownership structures and operate in the social economy [..]. These alternative systems of provision are intended to meet social needs in a way that differs significantly from the dominant regime, whilst also facilitating the expression of green values and cultural preferences" (Seyfang and Longhurst, 2016,p. 4). Within this broad definition framework, we can identify different kinds of GIs. A first distinction concerns their inward or outward orientation. In the former case, a GI is valuated for its own sake, and does not try to jeopardize the dominant system (Kirwan et al, 2013). Instead, outward oriented GIs are a mean to an end, as they pursue a more or less radical evolution of the current regime in terms of practices, rules, dominant actors, etc. (Seyfang and Smith, 2007); their dynamics becomes more complex, as diffusion and empowerment become fundamental.

Another distinction pertains the scope of GIs, i.e. the depth of the criticism to the dominant system. It goes from the absence of any criticism (e.g. GI as market surrogate) (Manniates, 2002) to a single-issue criticism (e.g. healthier food), up to the aim of transforming the social function (e.g. food, mobility, etc.) or even the society as a whole (e.g. the criticism of the neoliberal system). The latter kind of GI is typically defined as radical. It must however be specified that, within a single GI, multiple motivations can coexist (Ornetzeder and Rohracher, 2013).

Even excluding contributions referring to individual experiences (e.g. ecopreneurs[1]), there is a huge variety within GI studies, with a predominance of descriptive studies focusing on a single GI. There are also comparative analysis (Forest and Wiek, 2015), but in most cases they consider different local applications of the same GI (Feola and Nunes, 2014), while

1 See for example Sarkar and Pansera (2017).

there are few comparisons between different GIs (Tang et al., 2011; Ornetzeder and Rohracher, 2013; Feola and Butt, 2017).

A large part of literature focuses on local scale case studies that mostly concern the endowment of local or regional resources and the territorial embeddedment of GIs (Feola and Nunes, 2014). Research at the national scale is yet less developed than research at the local scale (Smith, 2006, 2007; Ornetzeder and Roharcher, 2013) while, within GI research, insights at global scale are mainly concerned with diffusion (Seyfang and Longhurst, 2013)[2]. Analyses at a larger scale highlight other issues, such as the evolution of ideological values; a specific focus is on mainstreaming, i.e. the stage of development in which the GI extends to new producers and consumers, often with different values or a lower commitment to original ones. Beside the emphasis on the local embeddedment of GIs, the main focus of research is on their contribution to sustainable development, their development mechanisms and the assessment of their success. With reference to sustainable development, in addition to the issue of the aptitude of community based action to arouse wider transformations (Burgess et al., 2003), literature emphasizes the multidimensional interpretation of sustainability by GI (Martin et al., 2015). Moreover, GI are more ambitious than traditional innovations (Hossain, 2016) and are often associated with a radical critique of the neoliberal system (Hess, 2013).

The extensive literature on GI development mechanisms is inspired by niche theory, and its mechanisms of shielding, nurturing and empowerment. GI shielding mechanisms are peculiar, if not "definitional": it is precisely their ideological values that protect grassroots products or practices from less expensive or more practical alternatives (Seyfang and Longhurst, 2016). Among the main nurturing mechanisms we can mention learning (Truffer, 2003), professionalization (Martin et al., 2015), structuration (also supra-local), and horizontal networking (Nicholls, 2007; Gupta, 2012). Empowerment, on the other hand, concerns the ability to establish a GI, in terms of market shares, funding, regulation, political power. Empowerment is strongly linked to the capacity for lobbying (Geels and Schot, 2007) and networking with institutions (Wolfram, 2018, Hargreaves et al., 2013) and to collaboration with large companies. Several studies have shown that mainstreaming, especially with companies, takes place at a cost of cooptation, i.e. compromises on the innovation scope (Hess, 2013, Smith, 2006). Therefore, the enlargement of the network of supporting actors sets important challenges; however, attention to agency is poorly formalized in GI literature (Tang et al., 2011).

In a more or less structured way, numerous studies have evaluated GIs in terms of success. Depending on the authors, different assessment criteria were used, related to their internal interactions or external impact: dimension, longevity, ability to attract resources (Feola and Nunes, 2014), replication and scaling (Seyfang and Longhurst, 2016), environmental performance (Reinsberger et al., 2015), etc. The assessment of GIs success is a problematic

2 The global issues of radical niches development can be traced within broader studies on Sustainable Transition. See for example the Routledge serie on Studies in Sustainability Transition (available at: https://www.routledge.com/Routledge-Studies-in-Sustainability-Transitions/book-series/RSST). However, by not referring to the concept of GI, they do not provide the same type of heuristic framing.

exercise since it involves different dimensions, often characterized by trade-offs, such as the ideological compromise that frequently accompanies mainstreaming (Smith, 2006; Hess, 2013). Furthermore, the assessment of success depends on subjective points of view (Grabs et al., 2016), and expectations (Hoppe et al., 2015); the latter also change in space and over time (e.g. with the emergence of new activists or consumers). This is why we propose to overcome the dichotomous concept of success/failure, in order to articulate a multidimensional concept of GI outcome, that explicitly considers ideological values, stability and empowerment.

Some scholars (Hermans, 2016; Smith, 2006; White and Stirling, 2013) have shown that a single GI can develop according to multiple pathways, thus giving rise to different outcomes. However, there is no systematic analysis of the factors that lead a GI to split into different pathways. The analysis of the dynamics that generate multiple pathways and outcomes could therefore integrate the literature on the dynamic/success relationship (Feola and Nunes, 2014; Forrest and Wiek, 2015).

Besides the attention to multiple pathways, we propose to perform a comparative analysis of different GIs. For each GI, a longitudinal study is provided; this kind of comparison – scarcely discussed in the literature – offers the possibility to deliver indications of general scope (Ornetzeder and Rohracher, 2013[3]).

3. Case study methodology

The research is based on the qualitative analysis and subsequent comparison of six case studies.

3.1 Selection

The research aims at formulating general considerations about GI dynamics. In order to increase the robustness of the comparative exercise, we have selected six case studies within two very different sectors: food and urban mobility.

The scale of analysis is global. For actors involved in mainstreaming processes, this scale is central as space of both engagement and dependence (Cox, 1998). However, we focused on the processes taking place in the Global-North, and selected case studies with origin in that part of the globe (particularly Europe). This because, despite globalization processes, the level of diversity and separateness between Global-North and Global-South cultures and societal functions of reference (actors, regulation, routines, etc.) are so far-reaching that they invalidate any comparability, or make it too complex.

In the selection process, we followed a definition of GI as a collective endeavor (Edwards-Schachter and Wallace, 2017). In other words, we have excluded – besides ecopreneurs –

3 This contribution is one of the few attempt to propose general reflections on dynamics/outcome relationship, based on longitudinal cross-cases studies. The study is however quite different from the present research, since it focus on GIs with a relevant technical component, the analysis focus on the initial stage of development, and it interpret differently the concept of outcome. Moreover, the issue of multiple pathways is not considered.

those innovations whose development strategy remains concentrated in the hands of one or few people (gurus)[4].
Finally, we have selected case studies characterized by already consolidated international diffusion and mainstreaming processes.
Based on these criteria, we have selected the following GIs: Fair Trade, Organic, Veganism, Carsharing, Cycling and Shared Space.

3.2 Analysis and comparison

Case studies are based on secondary – both scientific and grey – sources of information, including websites of the organizations involved in the considered GIs.
For each case study a longitudinal analysis has been carried out considering the following phases: background, development, growth, outcome (current status). For each case study and each phase we have investigated: a) values and ideological scope (social need, single issue, radical criticism); b) driving actors; c) internal networking of activists, both horizontal (i.e., the diffusion of practice and unstructured interaction) and vertical (i.e., the structured and hierarchical interaction within – e.g. – associations and umbrella associations); d) networking with other actors, in particular with institutions and firms outside the movement (with reference to the latter, a specific attention is given to dominant corporations and companies, from now on called "Big Firms"); e) relations with other sectors, i.e. the diffusion of GI practices to other sectors or the integration into the GI of components coming from other sectors (e.g. ICT); f) external drivers that influenced the GI development (e.g. the oil crisis); g) positioning of the GI with respect to the dominant system of reference (opposition, collaboration, etc.).
Thanks to the dynamic analysis of these variables, we have focused our attention on the generation of multiple GI pathways. From one original pathway, bifurcations result from divergent visions and practices between the involved (both grassroots and non-grassroots) actors. From that point onward, separated pathways – featuring different values, actors and practices – develop more or less independently and give rise to specific outcomes. We assessed the current outcome of each pathway in relation to three qualitative variables.

1. Congruence with initial values. Values associated with GIs are constantly evolving, so we referred to the consistency or continuity of values rather than to their stability. The assessment was mainly based on: the evolution of the value scope; the distance from the dominant system; the dimensions and stages of the supply chain considered as targets for sustainability.
2. Empowerment. Considered as the GI ability to influence the development of the societal function of reference; empowerment can manifest both through diffusion (to gain presence) and as changes in norms, routines and practices (e.g. new agriculture regulations).
3. Stability. It indicates the extent to which the relevant actors agree on the production and organizational methods of the GI itself.

4 As is, for example and in our opinion, the case of Slow Food, strongly controlled by its creator, Carlo Petrini.

Results of each case study are summarized in short narratives and in a time-line scheme representing the relationships between networking phenomena, bifurcations, pathways and outcomes. Such schemes aim at facilitating the reading and interpretation of dynamics; however, it must be stressed that they are just a simplification exercise: the development of GIs is almost always non linear, and the interactions between pathways, external elements, and all other relevant variables are more blurred and complex than those represented in the following figures 1-6.
Finally, all pathways generated by the six considered GIs have been compared. The joint consideration of dynamics and outcomes allowed the identification of recurring patterns, thus answering to our starting research questions.

4. Case studies

4.1 Fair Trade

The origins of the Fair Trade movement usually date back to the post-war and decolonization period, when religious and secular organizations began to sell handicrafts to support projects for refugees and Third World populations (WFTO, 2015; Renard, 2003). The movement structuration began in the 1960s, with the creation of the first World Shops. In 1968, the UNCTAD declaration "Trade not Aid" stimulated the definition of the fundamental values of the movement, thus overcoming the initial assistance logic. Fair Trade demands fair and equal trade relations between producers in developing countries and distributors in western countries. The movement, at its beginnings, proposed a radical criticism of international trade, and in particular of its dominant actors and their power relations. It should be noted, however, that such a criticism only aimed at some aspects of the neoliberal system.
The 1970s-1990s period featured some important structuration processes (WFTO, 2011). The networking of actors was characterized by a strong convergence of opinions and the internationalization and unification of standards. In particular, the principles of Fair Trade relations (work organization based on cooperative, minimum prices) and forms of control (certification) got defined. In the 1990s, following the price collapse due to the breakdown of the international coffee agreement, Fair Trade agrifood products took over handicrafts (Nicholls and Opal, 2004).
The first political clash within the movement took place in the 1990s, concerning its position with respect to some actors of the dominant system. Part of the movement, eager to increase Fair Trade shares, proposed to sell the products, not only in specialized World Shops, but also in supermarkets (Gendron et al., 2006). This was made possible by the development of labels (e.g. Max Havellar) which allowed consumers to recognize Fair Trade product regardless of the sale channel. Part of the movement opposed this orientation, contending that it reduces the sustainability of the supply chain to the sole production phase, while importers, processors and distributors who characterize the supermarket chain adopt behaviors that are not compatible with the ethical principles of Fair Trade. Although they

remain connected (e.g. Fairtrade[5] labeled coffee sold in World Shops), and a spectrum of intermediate experiences developed, from that point on Fair Trade sold in Word Shops or in supermarkets can be considered as distinct pathways. The former, although growing in absolute terms, saw its market shares in continuous decline (DAWS, 2011). The supermarkets pathway has grown fast over the last 20 years, paralleled by an intensifying process of integration into the dominant system, and by the resulting change in rules and practices: milder quantitative requirements; agreements also with brands − such as Nestlé or Starbuck − considered unfair; opening to big plantations for certain products (Renard, 2005).
A new split within the movement took place in 2011, when Fairtrade USA left Fairtrade international. The former, still oriented towards satisfying a demand that exceeds supply, decided to make further compromises with the system (Stevens, 2011).
Even if not strictly ascribable to the Fair Trade movement, new programs and labels have developed in the last decade. Sometimes initiated by agrifood corporations, they are targeted as "eco-social", and while they have much more lenient rules then Fair Trade, they are associated with it in mass perception (Purvis, 2006). The use of eco-social labels (and Fairtrade labels) by large corporations is considered by some detractor as a greenwashing practice (Raynolds, 2002).

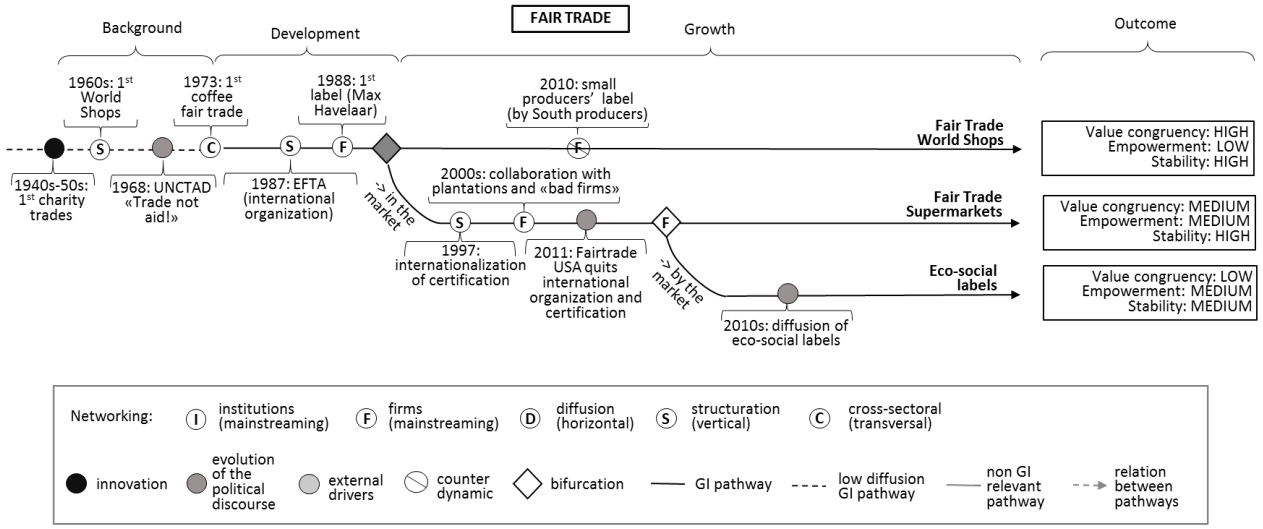

Fig. 1. Fair Trade timeline: multiple pathways and outcomes

5 Fairtrade in one word indicates the WFTO organization and label, and should not be confused with Fair Trade in two words, that indicates the broader movement.

Summarizing, the development of Fair Trade has been characterized by fractures related to mainstreaming, and to the level of compromise considered acceptable. Unlike other GIs – embedded in local contexts – the international scale of Fair Trade prevents any direct contact between producer and consumer, constraining the reflexive capacity of the latter and increasing the need for common protocols (standard). This certainly supported the international structuring of the movement and its good capacity for control, even after entering the market (e.g. through collaboration with companies). On the other hand, few consumers are able to perceive the distinction between a Fair Trade and an "eco-social" label; with the exception of World Shops – where direct dialogue between activists and consumers is possible – the influence of the Fair Trade movement on consumers' perception is limited to certification. Such a dynamic has paved the way for the recuperation of the Fair Trade concept by Big Firms that carry out completely different practices and objectives.

4.2 Organic[6]

The first theorizations of organic farming developed independently between the two World Wars. In particular we recall: the biodynamic method (Steiner; Austria); the agronomic approach (Howard and Lady Balfour; India and GB); the natural farming proposed (Fukuoka; Japan[7]). Such very different approaches, shared the criticism of the growing industrialization of agriculture and a focus on the ecological processes of agricultural production (e.g. soil regeneration). These pioneers proposed a holistic vision of agriculture within the broader issue of man-environment relations (Kuepper, 2010). As a consequence, also the criticism of industrialization had a social connotation.

The real drive towards organic farming began in the 1960s, following the rallying of counterculture activists and the "back to the land" movement. The ecological issue got incorporated into a broader environmental issue (Kuepper, 2010). The element of social criticism of the capitalist system also became increasingly important (anti-consumerism), but moved from a predominantly conservative interpretation to a markedly progressive one. The 1960s-1980s represented the structuring phase of the movement. The new generation of activists, mostly made up of producers and agronomists, built innovation through learning by doing and international structuring (IFOAM; Paull, 2010); the first experiences of dedicated commercialization and the first standards date back to this period. Development occurred laterally, i.e. the organizational model that developed was totally disconnected from the dominant regime, but did not attack it frontally (Fomsgaard, 2006).

In the 1990s, organic products gained credibility from a technical point of view; dynamics and actors external to the movement allowed its entry into the mainstream. Tensions within the dominant regime − especially the health crises (BSE, foot and mouth disease) − were a

6 The word 'organic' is here written with an initial capital or small letter to indicate the movement or the generic term, respectively.

7 The Japanese Organic movement is particularly interesting and original, also in its subsequent developments (Fomsgaard, 2006). However, having had a limited impact in the rest of the world, we will not address it further.

first important driver. Consumers' sensitivity to health and environment issues was further accentuated by crises outside the food system, such as the Chernobyl accident. The Organic movement, usually scarcely proactive, made an instrumental use of these events by underlying the advantages of Organic over the dominant regime (Smith, 2006). From that point on, the health issue assumed an increasing weight in the discourses and values associated with Organic. The second key driving factor was the adoption of organic farming by European institutions: the 1992 EU CAP scheme integrated environmental and rural goals, thus providing financial support for both agri-environmental measures and organic production (EEC 2078/92). In those years the EU also issued its own organic products standards (EEC Regulation 2092/91), which then served as a reference for other countries.

The institutionalization of organic farming has quickly been followed by its entry into the mainstream market. Given the growing awareness of consumers, large agrifood companies saw Organic as a profit opportunity. As demand exceeded supply, the conversion from conventional to organic farming proceeded rapidly, according to a top-down mechanism. Public incentives facilitated a conversion of non-committed producers, further encouraged by their mainstream buyers (Petit, 2011). In some non-European countries of production, the transition to Organic was even built by Big Firms (ISMEA-IAMB, 2008).

Mainstreaming of Organic has though been accompanied by a resizing of its scope. Thanks to institutional standards, organic agricultural practices remain fairly solid (Padel et al., 2009). However, other ecological principles (e.g. input substitution) have faded, and the rest of the supply chain is managed as usual: longer supply chains, excessive packaging, unequal power distribution (Guthman, 2004). All these issues are not considered by those consumers that are scarcely reflexive and mainly concerned about health.

In reaction to mainstreaming, a whole spectrum of socio-territorially embedded experiences developed (Haldy, 2004). They range from a strong and multidimensional conception of Organic (e.g. biodynamics, direct sales) to hybrid models such as large box-schemes (Clark et al., 2008). The spectrum of values also diversifies between environmental, health or social values. Some grassroots Organic actors no longer consider themselves as part of an overall movement; some producers waive certification because of cost or even value motivations. As a result, one can say that mainstream and grassroots Organic practices are separated, but competing, as they both offer a real alternative to consumers[8].

Simplifying, two archetypes of Organic pathways can therefore be considered today: territorially embedded and supermarkets. The territorially embedded pathway represents the direct heir of the nineteen sixties-eighties movement; its persistence highlights the good results of the inward-oriented aspects of the structuring process: development of a quality product, relatively efficient production and distribution practices and so on. Dynamics such as the renunciation of certification show that this part of the movement feels strong enough to implement a system where producer-consumer relationships are based on trust, not on market rules.

8 In Europe, also due to the institutional positioning, the divergence between mainstream and alternative pathways is the result of a gradual and fluid process. In the US, instead, the bifurcation was much more conflictual, immediate and clear-cut (Goodman et al. 2012).

The supermarket pathway is instead characterized by the recuperation of the GI by external parties and by top-down developments. While in the case of (European) institutions, there seems to be a real adhesion to some foundations of organic farming, for Big Firms, Organic is just an opportunity for profit. More than the activists' action, it is precisely institutions that restrain Big Firms from the complete recuperation of Organic. However, even institutions conceive Organic as an element of transformation within the dominant agrifood system, without questioning its foundations.

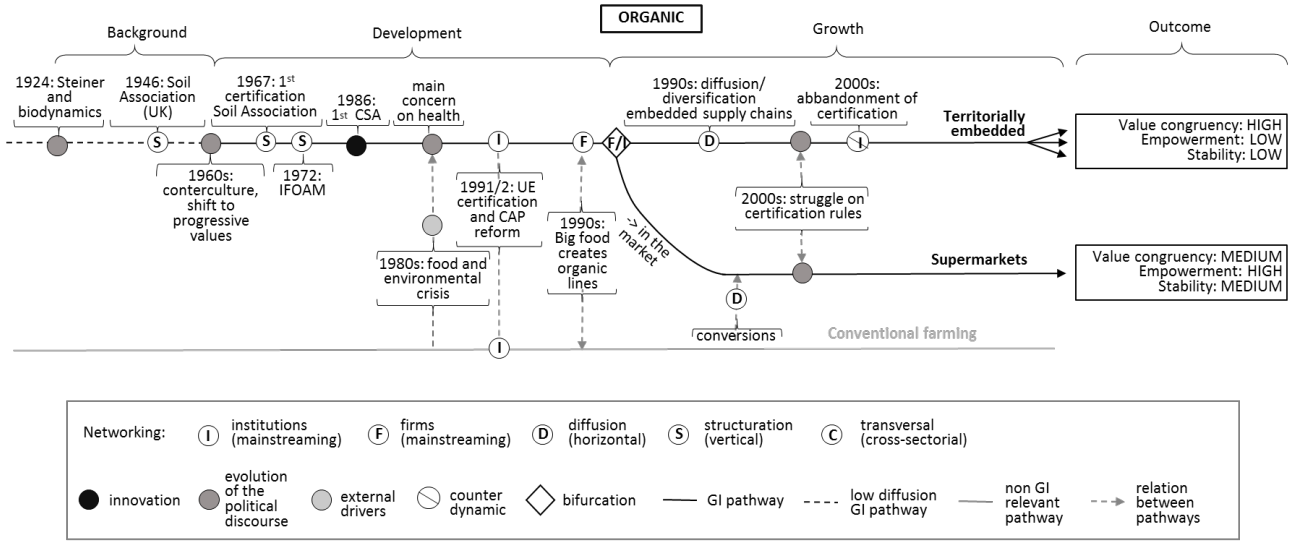

Fig. 2. Organic timeline: multiple pathways and outcomes

4.3 Veganism[9]

The Veganism movement structured in 1944 with the creation of the Vegan Society in the UK. Until then, vegans represented an internal current in vegetarian associations, with which they shared the consideration of animal welfare, but differed in terms of practices, opposing coherence to pragmatism[10].

In the second half of the 20th century the evolution and structuring of the Veganism movement progressed very slowly. The dominant ideological issue at that time was antispeciesism to which health concerns were added. From the beginning, veganism also had affinity with organic (The Vegan Society, 2014). Unlike other GIs, Veganism is an inward oriented, poorly organized GI. It does not challenge the dominant system, but rather tries to

9 Here again, the word 'veganism' is written with an initial capital or small letter to indicate the movement or the generic term, respectively.

10 It is worth remembering that vegetarianism began to spread in the modern West in the 19th century, while it was already rooted in India, for ethical-religious reasons, since the 7th century BC.

help its followers in their individual practices (until recently the vegan practice was commonly considered deviant; Haenfler et al., 2012). Such an approach has certainly influenced the limited proselytism and the lack of international structuration; indeed, unlike other GIs, an international umbrella organization does not exist.

The success and attention that Veganism has received over the last decade has been strongly influenced by external or side events. In chronological order, it is worth mentioning the development of so-called "eco-terrorist" associations for animal welfare (e.g. PETA); even if the Veganism movement dissociated itself from these political methods and practices (The Vegan Society, 2014), they have certainly influenced public opinion. Another element – already mentioned with reference to Organic – concerns the tensions within the dominant system generated by the health crises of the 1980s-1990s, that were explicitly associated to animal products. Vegetarianism and veganism became then interpreted by many as healthy diets. The 2010s are thus characterized by a greater visibility of Veganism and by the increase of followers and occasional consumers of vegan products. The mainstream food industry, perceiving a market opportunity, developed vegan lines and assumed a trend-maker role (Smart, 2004). Institutionalization is still in its infancy however, and variable orientations are being observed, for example in banning the vegan option in school catering (e.g. France, Décret no 2011-1227) or in making it mandatory (e.g. Portugal, Lei no. 11/2017).

The acceleration in the diffusion and visibility of Veganism is very recent (The Vegan Society, 2016), and some dynamics are therefore unclear and not very stable at the moment. Indeed, a net bifurcation cannot be defined in Veganism, but rather two trends associated with different attitudes, dynamics and dominant values. On the one hand, the original Veganism – i.e. primarily antispeciesist – continues and spreads, perhaps enriched with greater considerations for health or the environment. On the other hand, a current that we called 'flexitarian' (Hamilton, 2008) is developing; this includes both vegans for whom health concern prevails on animal welfare, and occasional vegans, for whom this diet is a preference rather than an imperative.

By advertising and making the choice more accessible, Big Firms has greatly contributed to the development of the flexitarian pathway. In this case the lack of values adhesion by Big Firms (neutrality) is explicit: on the same shelves they boast the merits of products (meat and substitutes) associated with diametrically opposed values.

The diffusion of the antispeciesist pathway is interesting because it differs considerably from the dynamics of other GIs, due to the almost total absence of outward-oriented action. The dominant strategy of the Veganism (and vegetarianism) movement "is not collective political action but collective individual improvement" (Maurer, 2002, p. 115). However, it is possible that the debate towards institutionalization (e.g. vegan menu in public catering) encourages structuration aimed at lobbying. It is also interesting to note that, unlike other GIs, the "purist" current does not tend to fight the contradictory values related to Big Firms behavior, which is rather considered as an opportunity for easier access to vegan products (Smart, 2004).

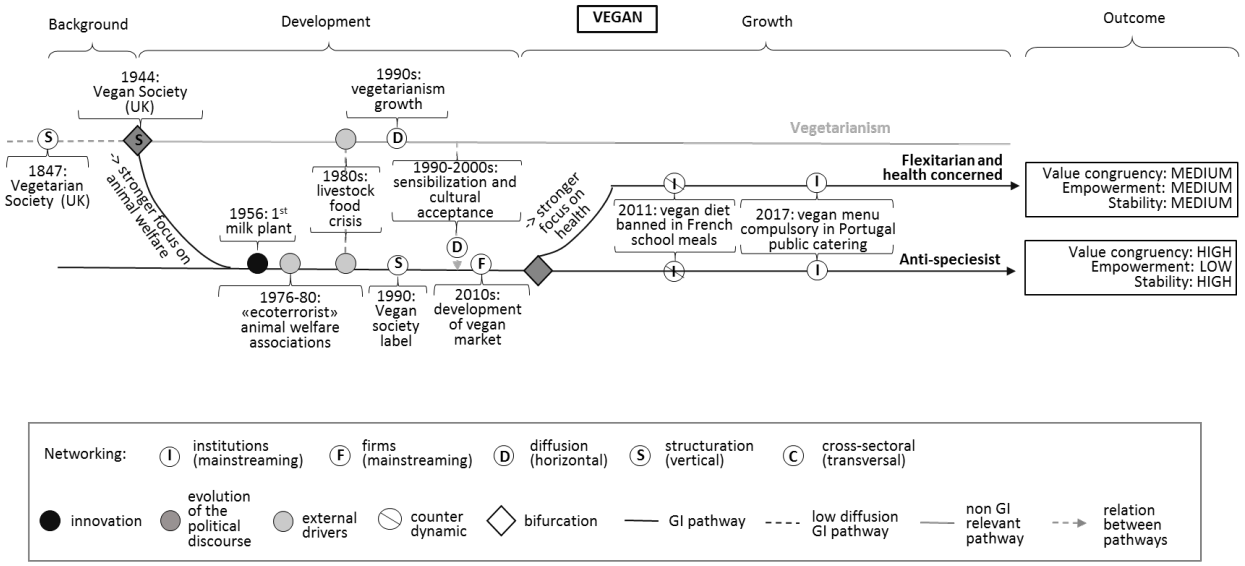

Fig. 3. Veganism timeline: multiple pathways and outcomes

4.4 Carsharing

The first Carsharing experiments were developed in Europe between the 1940s and 1980s; they were unrelated and more or less unsuccessful. The first lasting Carsharing experiences arose in 1987, independently developed by two Swiss cooperatives: ShareCome and ATG. The following year, StattAuto was created in Berlin, which evolved in a similar way (for contextual/legal reasons, however, it did not take the form of a cooperative; Harm and Truffer, 1998). In the first stage, few vehicles were shared among acquaintances, and organizational tasks were based on volunteering (Shaheen et al., 1999). The motivations of initial adherents were environmental, complemented − especially in ShareCom − by communality (community building) and criticism of the consumerist model (Harm and Truffer, 1998). As the circle of participants activists widened through word of mouth, motivations widened too, with the entrance of users more interested in affordability.

In the 1990s, new Carsharing Organizations (CSOs) developed in Europe, mainly based on grassroots local initiatives. This phase was characterized by the structuring of the GI, that took place through: technological and organizational development; integration with public transport; creation of international associations; and, above all, professionalization. While professionalization appeared to many as a necessary element to support the diffusion of CSOs, research has shown that volunteering has been fundamental for learning and for the success of the initiative in its early stages (Truffer, 2003). Professionalization has also been an element of ideological conflict, as exemplified by the dynamics that in 1997 led to the merger into Mobility of the two Swiss CSOs. ShareCome leaders claimed that volunteering was a tool for socialization and empowerment, while professionalization risked to dilute the values

associated with the GI (Harm and Truffer, 1998). Indeed, in the early 2000s – at the apex of non-profit (or social entrepreneurship) Carsharing – affordability and other practical motivations had already prevailed on environmental or social ones (Loose, 2010).
The following development phase (2000-2010) is characterized by the exponential growth of Carsharing and its diffusion, first in America, then in Asia (Shaheen and Cohen, 2012). Such a phase was supported by technologies, and by the diversification of organizational models (point-to-point, free floating, peer-to-peer). But above all, growth was influenced by the entry of major players of the automotive industry: car rental companies and car manufacturers – carrying along their investment capacity – purchased troubled small non-profit companies and initiated a process of market concentration (ACEA, 2014).

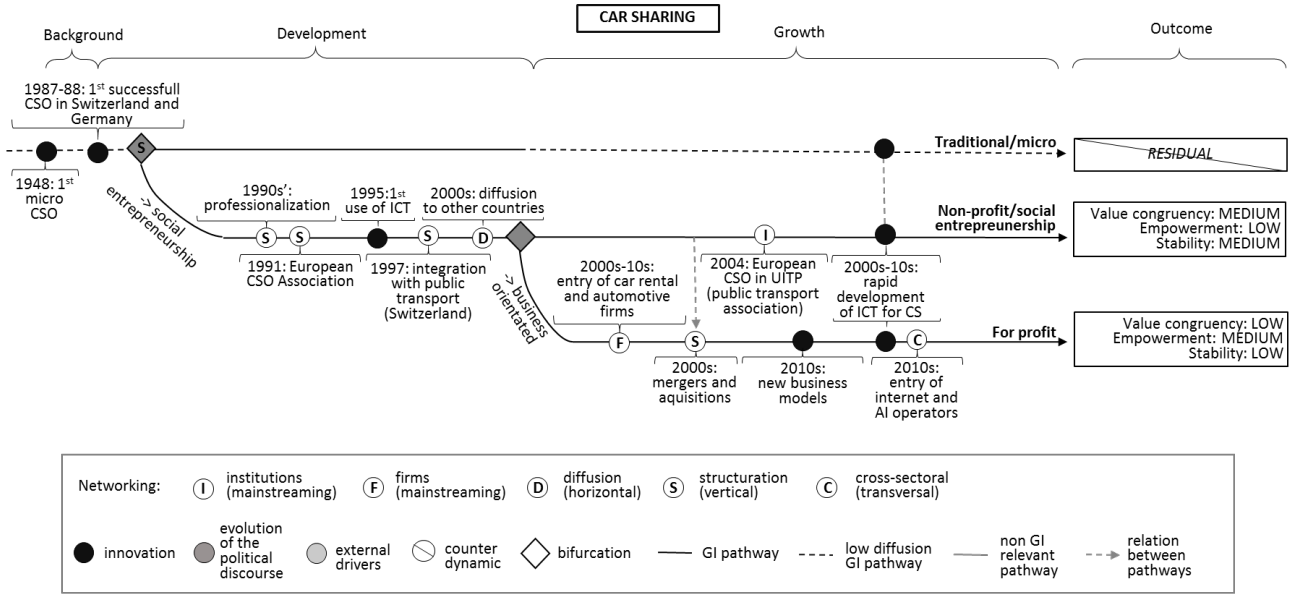

Fig. 4. Carsharing timeline: multiple pathways and outcomes

Carsharing is still in the midst of a process of change. Traditional Carsharing – based on volunteering or on very small supporting groups – has almost disappeared. While there was some optimism ten years ago about the development of non-profit Carsharing – and its potential for integration with public transport – one can count nowadays just a handful of well-established non-profit CSOs (ACEA, 2014). The evolution of the for-profit pathway is also open, mostly because of the entry of new actors (e.g. ICT firms, such as Google and Uber) and the experimentation of new technological developments (e.g. peer-to-peer shared private cars, and self-driving taxis), (McKinsey&Company, 2016).
As in other GIs, there is a recuperation process by Big Firm, i.e. a net discontinuity in terms of reference values (e.g. integration with public transport is an option rather than an end).

However, while for other GIs the trend is to incorporate innovative practices back into the dominant system, the path here is more indefinite. Even the for profit Carsharing pathway could lead to a revolution in urban mobility, still based on the car, but with new actors (e.g. internet platforms) and new practices (transportation as a service). A revolution that will not involve grassroots movements (that is, not a GI).

4.5 Cycling

At the time of its first diffusion, at the end of the 19th century, the bicycle was already a symbol and a medium to claim wider objectives; as such it was used by pro-modernity movements – such as the Good Roads Movement – but also by feminists and socialists (Horton, 2006). A period of decadence followed, first in America, then in Europe, in which the bicycle was outclassed by the car.

It is in the 1960s-1970s − in the wake of the energy crisis − that Cycling rose again. In both Europe and America, a first wave of counterculture movements used, once again, the bicycle as a mean of protest and claims. Criticisms of capitalism and consumerism, environmentalism, safety and urban livability, were their shared values; the car represented the icon of the rejected system, with the bicycle both as a symbolic and real alternative (Horton, 2006). Since the 1990s a second wave developed in cities where the car still reigned unchallenged. Bike-coops – based on a do-it-yourself (DIY) philosophy – and Mass Rides (Furness, 2005) diffused. Activists linked to counterculture explicitly rejected vertical structuring, in favor of fluid and non-hierarchical networks (Furness, 2005).

The first wave of grassroots movement is mainly remembered for the Copenhagen (environmentalists, protests against Urban Plan) and Dutch (Provo, Stop de Kindermoord) experiences that triggered a change of trajectory in their contexts (Van der Zee, 2015; Cathcart-Keays, 2016). Activists launched a process of institutionalization, based on the enlistment of urban planners and the opening of a dialogue with public administrations (Stoffer, 2012). As a result, urban planning models evolved significantly towards a pro-bike approach, paralleled by an increasing attention to livability and co-existence (between different transport modes and different urban functions). In the Dutch case, pro-bike advocacy was national and affected all urban areas, while in Denmark the paradigm shift almost remained confined to Copenhagen. Even if the bike modal share remains lower than in the 1950s, these cases are considered as success stories in which mainstreaming has not led to the resizing of practices (Fietsberaad, 2010). Political values supported by counterculture movements have however been set aside, with other medium than the bicycle being used for overall claims and protests.

Collaboration between the Cycling movement and institutions took place only for a short time, after which institutions took over as the main advocate of the bicycle. Indeed, since the 1990s the diffusion of Cycling is mostly supported by institutions, even if some bottom-up influences linked to the second wave of counterculture Cycling are to be recognized. Pressures within car-based urban systems (such as, congestion and pollution) have pushed many European cities and some American cities to take inspiration from the Dutch and Danish best-practices, in order to undertake a gradual shift towards pro-bike and anti-car

policies. In such a general trend, two separate pathways can be detected: Cycling cities and Sustainable alternative. In the former, the bicycle no longer needs to be promoted as a value because it is deeply embedded in the shared culture of urban planning; also because of such an institutionalization, counterculture Cycling movements are almost completely missing in these cities (i.e. the bicycle do not represent anymore a subversive symbol). In the pathway Sustainable alternative, the bicycle is nothing but a transport policy tool in a system that is still centered on individual cars (Horton, 2006).

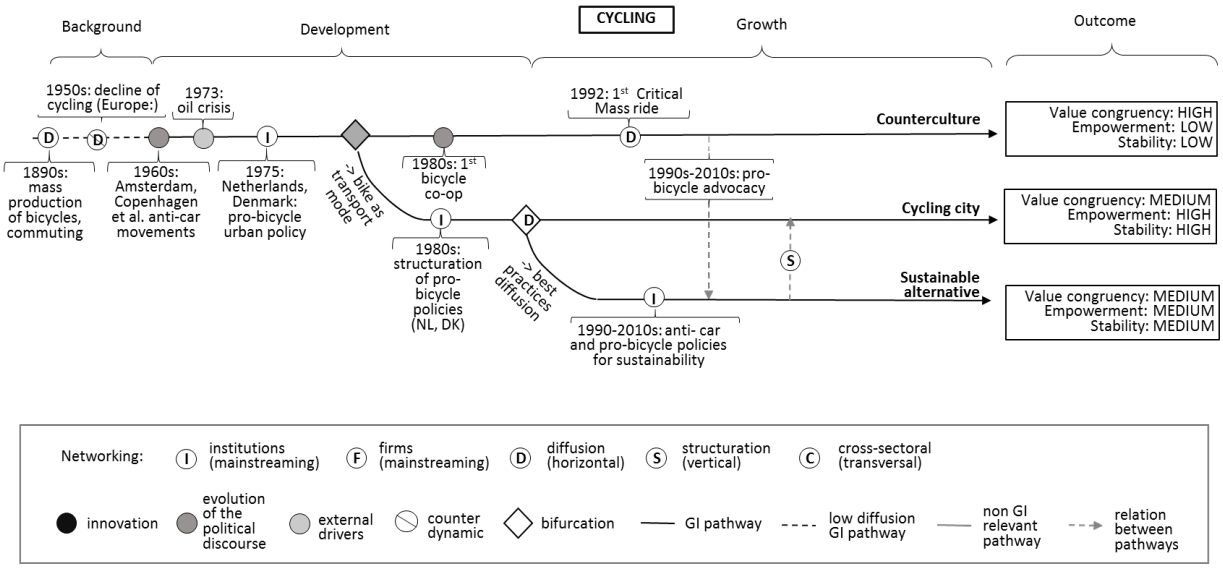

Fig. 5. Cycling timeline: multiple pathways and outcomes

4.6 Shared Space[11]

Citizens' contribution to the improvement of neighborhoods livability (lighting, public gardens, etc.) has been developing since the birth of modern urbanism, in the 19th century (Talen, 2015). Only with the spread of cars the first actions aimed at the (temporary) recovery of streets for social purposes took place (first play street in NY in 1914; Dwyer, 2017). It is precisely because of the conflict for space between pedestrians and motorists that we consider Shared Space as an urban mobility GI; nonetheless, it must be stressed that the dynamics of this GI is closely intertwined with that of urban planning and with the positioning of urban planners.

As in Cycling, actions for Shared space found a new impulse, in both USA and Europe, in the counterculture movements of the 1960s-1970s and the development of the so-called

11 With the expression "Shared Space", we mean here the attention to urban livability in the management of public space. Shared space also refers to a type of urban design without separation between pedestrian and car spaces.

DIY/guerilla urbanism (e.g. street happenings, guerilla gardening, abusive bike lanes, etc.; Fraser, 2010; Van der Zee, 2015)[12]. DIY urbanism is closely intertwined with counterculture Cycling as they both focused on the same criticism to the capitalist system and to modern urbanism, and feature a common concern about urban livability, space recovery for socialization, community building. While part of the actions of this first wave of DIY/guerilla urbanism remained unauthorized and dissociated from institutions, Stop de Kindermoord – one of the movements at the origin of the institutionalization of Cycling – enlisted urban planners and contributed to the development and spread of living streets (*woonerf* in Dutch) (Hembrow, 2010). The event marked the launch of new urbanism paradigms, oriented towards mixed use and livability of urban spaces (e.g. New Urbanism in USA, Urban Renaissance in Europe). After the initial collaborative event, the period 1975-1995 has been characterized by institutional recuperation, with little confrontation with grassroots movements.

In the 1990s a second wave of grassroots activities began (e.g. city repair, park(ing) day; SPUR, 2010) in which artists and urban planners were also involved. The latter – in particular Lydon, which defined the concept of Tactical Urbanism (Lydon and Garcia, 2015) – paved the way to the institutionalization of practices through the recognition, facilitation and financing of citizens' activities or interventions on urban space (e.g. play street). Such an evolution was considered by most people as an achievement, while more radical voices denounced it as a recuperation by the neoliberal ideology, and claimed for subversive action (Mould, 2014).

Some interventions for Shared Space, implemented according to the methods of Tactical Urbanism (rapid implementation, low budget, ephemeral) – but without the involvement of citizens – rather than to community building, seem oriented to make the city trendy and attractive for the "creative class" (Florida, 2002).

Shared Space features many characteristics in common with Cycling: scope of action, relevance of institutional intervention, criticism of the dominant vision of the city. However, the DIY urbanism pathway differ from counterculture Cycling because of the emphasis on real applications (vs. challenging) and the seek for some form of networking with local institutions. Concepts such as "give us room for action" or "do things together" paved the way to the Tactical Urbanism pathway, that however represents only a partial realization of the original GI objectives, as a radical revision of the (neoliberal) urban model is lacking. Nonetheless, the Tactical Urbanism pathway mostly remains within the GI (recuperation of grassroots impulses first, then collaboration). The Creative City pathway is instead divergent: recuperation is getting deeper and deeper, with the ideological orientation of urban planners and institutions that – beyond rhetorical claims – increasingly aligns with neo-liberalism.

12 It is important specifying that DIY urbanism is a much more important reality in the Global South than in Occident (Talen, 2015). However, they can practically be considered as separate GIs, both for the low contamination and for the differences in context (e.g. planning procedures).

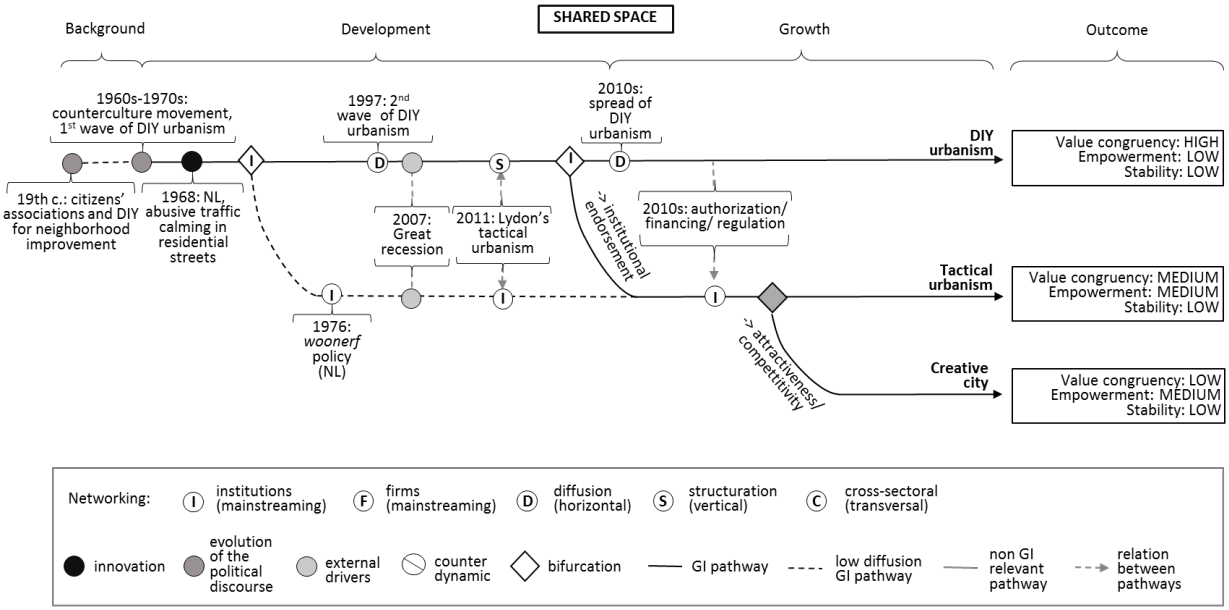

Fig. 6. Shared Space timeline: multiple pathways and outcomes

5. Comparison of case studies

The considered GIs are characterized by different aims and contexts, that affects their dynamics and outcomes. In particular, they differ in terms of:

- maturity: the processes of structuration or affirmation in Veganism, Carsharing and Shared Space are rather recent and therefore particularly subject to rapid and relevant changes;
- institutional involvement: while institutional action is omnipresent in urban mobility (planning and policy), it's mainly circumscribed to agriculture in the food sector (subsidies and regulation);
- ideological scope: the level of criticism to the system (more or less radical and multidimensional) influences both the tendency and modality of networking with other actors, and the distance between pathways with regards to values.

Despite these structural differences, some recurring patterns in the dynamics of the considered GIs can be identified.

In all case studies, multiple pathways are generated by the evolution of the GI value scope: new issues emerge (health in Veganism and Organic) and a shift from altruistic (e.g. commonality, environment) to individual values (e.g. health, affordability) is apparent. Such a change in the basic values of GIs is in turn usually related to mainstreaming.

In some cases, bifurcations are neat, characterized by open clashes between involved actors (Fair Trade). In other cases – particularly in the younger GIs or when strong representative

bodies (NGOs) are lacking – bifurcations are less apparent, even for the involved actors (Veganism, Shared Space).

The generation of new pathways can be auto-guided or hetero-guided. In the former case there is a political split within the movement, linked to the decision of some activists to alter the orientation of the innovation in order to penetrate the market, or to institutionalize. Most of the time this happens through a collaboration with some leading actors of the dominant system (e.g. pathways of Fair Trade Supermarkets and Tactical Urbanism). But it can also depend on the evolution of internal rules in order to become more competitive on the market, as in the first bifurcation of Carsharing, generated by the professionalization of NGOs.

In hetero-guided bifurcations, a mainstreaming pathway is developed, which often converge towards dominant practices. Non-grassroots actors play a key role, while grassroots activists remain at the margin. Mainstreaming takes place in two ways: adoption and recuperation, that mostly involve – respectively – institutions (e.g. Organic) and Big Firms (pathways Carsharing for profit and Eco-social labels). As a reaction, part of the grassroots movement – that rejects mainstreaming – continues its own pathway. Instead, other grassroots activists follow the dynamics of adoption/recuperation and redefine their value framework, It should be also noted that when a second bifurcation takes place, it is systematically of the hetero-direct/recuperation kind, thus highlighting that mainstreaming is associated with the de-powerment of grassroots actors.

Stability, power and congruence with initial values are the three dimensions of the outcome of each GI pathways that were taken into consideration. Case studies show that stability is influenced by many factors (youth of the GI, external pressures, technological innovation, etc.) that do not relate neither to the dynamics of GI pathways generation nor to the others dimensions of their outcomes. The other two dimensions – that are often considered as success criteria – are typically characterized by a trade-off, and can also be related to pathway-specific dynamics (see Table 1).

First of all, case studies confirm that mainstreaming generates higher empowerment. In particular, the cases of greater empowerment are all associated to institutionalization (pathways Organic supermarkets and Cycling city). This can be ascribed not only to regulatory support to the GI, but also to the genuine adhesion of institutions to its original values.

Mainstreaming also leads to a deviation from the GI initial values. In the case of mainstreaming with institutions, such a deviation is generally limited (with the exception of the pathway Creative city). However, institutions consider GIs more as a remedy for system failures, than as a way for system change; radical criticisms are systematically discarded. Mainstreaming with Big Firms leads, at best, to the development of market niches (pathway Fair Trade supermarkets), where the only underlying motivations are sales increase and profit.

Grassroot innovation	Pathway	Pathway-specific dynamics	Outcome			
			Driving actors	Congruency with initial values	Empowerment	Stability
FAIR TRADE	World Shops	Structuration	NGO	High	Low	High
	Supermarkets	Structuration + Collaboration with big firms	NGO, Big firms	Medium	Medium	High
	Eco-social labels	Recuperation by big firms	Big firms	Low	Medium	Medium
ORGANIC	Territorially embedded	Structuration	Producers, NGO	High	Low	Low
	Supermarkets	Recuperation by institutions and big firms	Institutions, Big firms	Medium	High	Medium
VEGANISM	Anti-speciesist	Diffusion	Consumers	High	Low	High
	Flexitarian	Diffusion + Recuperation by big firms	Big firms	Medium	Medium	Medium
CAR SHARING	Non-profit	Structuration + Collaboration with institutions	NGO, Institutions	Medium	Low	Medium
	For profit	Recuperation by big firms	Big Firms	Low	Medium	Low
CYCLING	Counterculture	Diffusion	Citizens	High	Low	Low
	Cycling city	Promotion by institutions	Institutions	Medium	High	High
	Sustainable alternative	Promotion and diffusion by institutions	Institutions	Medium	Medium	Medium
SHARED SPACE	DIY urbanism	Diffusion	Citizens	High	Low	Low
	Tactical urbanism	Promotion by and collaboration with institutions	Citizens, Institutions, Experts	Medium	Medium	Low
	Creative city	Recuperation by institutions	Institutions, experts	Low	Medium	Low

Tab. 1. Grassroots innovations: pathway-specific dynamics and outcomes

In recuperation cases (vs. collaboration) even practices may differ significantly from the initial ones (pathway Eco-social labels): reference to the founding values of Fair Trade becomes a pure marketing (and greenwashing) strategy. Recuperation may also relates to practices only: the innovation is considered as valuable and exported to another context by actors that do not refer at all to the GI value background; this is the case of the pathway Carsharing for profit, but also of the pathway Creative city (where the recuperation is institutional). If mainstreaming is mainly about involving external actors, internal networking within the GI also influences its outcome.

Vertical structuring can influence mainstreaming and its outcome, even if not in a deterministic way. In Organic for example, although there are international NGOs, they have been relegated to a secondary role by institutional intervention. On the other hand, it should be noted that in several cases of hetero-guided mainstreaming, the grassroots movement lacked vertical structuring. This, however, rather than from the inability of supporting actors, generally derives from an explicit objection, either because hierarchical structuration is considered antithetical to GI values (pathway Counterculture Cycling), or because the whole GI is (intentionally) experienced individually (Veganism).

Horizontal networking (or diffusion) can lead to relevant changes in the dynamics of non-mainstreaming pathways that – while remaining congruent with the GI initial values – are not always crystallized or converging. In particular, in cases of radical criticism to the system, new values and divergent practices are generated. These different responses to the pressures coming from the dominant system and from other pathways represent the natural and necessary "wandering" in search of workable practices, and the adaptation to different contexts (i.e., territorial embeddedness. This “rhizomatic developments” (Deleuze and Guattari, 1976) do not develop in isolation, but according to non-hierarchical interaction; in the pathways of Counterculture Cycling and DIY Urbanism, there are networks (even of global reach) of individuals or small groups mediated by the web.

In table 2 the analyzed pathways are organized according to the main patterns identified. It should be stressed, however, that more than rigid categories, there is a continuum of experience. The different pathways are also in continuous interaction, both through the migration of individuals, groups and experience from one pathway to another, and through the exertion of mutual pressures.

Dynamics			Pathway	Driving actors	Value congruency	Empowerment	Stability
Main streaming	Recuperation	By institution	**Shared space - Creative city**	Institutions Experts	L	M	L
		By firm	**Car Sharing - For profit**	Big firms	L	M	L
			Fair Trade - Ecosocial labels	Big firms	L	M	M
	Collaboration Promotion	With firms	**Veganism - Flexitarian**	Big firms	M	M	M
			Fair Trade - Supermarkets	NGO Big firms	M	M	H
		With firms and institutions	**Organic - Supermarkets**	Institutions Big firms	M	H	M
		With institutions	**Cycling – Cycling city**	Institutions	M	H	H
			Cycling - Sustainable alternative	Institutions	M	M	M
			Shared Space - Tactical urbanism	Citizens Institutions Experts	M	M	L
			Car Sharing – Non-profit	NGO Institutions	M	L	M
No mainstreaming		Convergent	**Fair Trade - World Shops**	NGO	H	L	H
			Veganism - Anti-speciesist	Consumers	H	L	H
		Divergent	**Organic - Territorially embedded**	Producers NGO	H	L	L
			Shared Space - DIY urbanism	Citizens	H	L	L
			Cycling - Counterculture	Citizens	H	L	L

Tab. 2: Relationship between dynamics and outcome of multiple pathways GIs

6. Conclusions

This paper brings some useful contributions to the literature on GI. First, the global scale of the analysis complements the extensive literature dedicated to local surveys, by treating some overall dynamics, including mainstreaming. Second, the comparison between heterogeneous GIs – in particular, with regards to their value scope and societal function of reference – highlights some recurring patterns.

More specifically, with this paper we can answer to two research questions: (RQ1) What factors generate multiple GI pathways? (RQ2) What are the relationships between such factors and GI outcomes?

With reference to the first research question, the comparison of the considered case studies highlighted the ideological conflict about mainstreaming as a motive for bifurcations between different GI pathways. In mainstreaming pathways grassroots activists may be involved (collaboration) or not (adoption/recuperation).

With reference to the second research question, we have highlighted a trade-off between empowerment and congruence with initial values, thus confirming the results of research carried out by other scholars (Hess, 2013; Smith, 2006). However, such a trade-off is not linear and depends on the type of actors involved in mainstreaming. In particular, the cases for which we assessed a higher level of empowerment are all associated with an institutional adoption of the GI, that generally also leads to a higher congruence with initial values (compared to mainstreaming with Big Firms). However, one case (pathway Creative City) highlights the existence of a recuperation process led by institutions.

The analysis also considered internal networking within GI movements, and highlighted differences in intensity and forms. While vertical organization can help grassroots actors to control the mainstreaming process, non-hierarchical organization may favor the development of territorially embedded and diverging experiences that support GI resilience. However, an in-depth analysis of these rizhomatic processes, which are mainly local, was not possible in the framework of our research.

While comparison has allowed the identification of recurring patterns, it should be specified that it offers only a rough and partial picture of the analyzed GIs dynamics. First of all, it should be remembered that, rather than rigid bifurcations and separated pathways, the dynamics and outcomes described are positioned along a continuum of experiences, in interaction and constant evolution. Secondly, our analysis identified the generation of multiple pathways mostly associated to networking dynamics; however, it should be noted that other bifurcations should have been considered, such as those associated with technological aspects.

Our investigation has also provided some insights for future research. First of all, we suggest that the themes of New Social Movements (Gusfield, 1994), Lifestyle Movements (Haenfler et al., 2012) and political and reflexive consumerism (Micheletti, 2003; Spaargaren et al, 2012) get systematized within the GI theory. Indeed, most of the GIs we analyze developed from the 1960s and 1970s counterculture, then they transformed into movements that actively promote a new way of life as a primary means to foster social change (Haenfler et al., 2012). The diffusion of GIs is closely linked to the success of such an approach; at the same time

they may degenerate when recuperated by Big Firms (in particular in the food sector). The reference to individual responsibility through daily action and the supply of products that are targeted as sustainable appears nowadays as a strategy for legitimizing exacerbated consumption (vs. the anti-consumerism at the origin of many GIs). Whether active or passive, consumers are therefore central to the dynamics of GIs; their role should be the matter of further research.

Other issues emerged, that refer to the framing of GIs within the socio-technical analysis of innovation. A first doubt concerns the adequacy of the consideration of GIs as niches, i.e. spaces protected from competitive pressures. At certain times and in certain contexts, ideological values may fulfill a function of protection from commercial pressures, but this is true only if the grassroots activists intend to operate in the market space. In other words, in certain pathways (e.g. Counterculture Cycling) or in background phases (e.g. organic gardening), GIs mostly develop within the ideological/political space rather than within the economic/technological one. In these cases, it is this separateness, relative to the spheres of action, that limits the exposure of GIs to the competitive pressures coming from the market.

Given its widespread use, we also think it could be useful to reflect more specifically on the adequacy of some MLP constructs (Geels, 2002) for the analysis of GIs. Unlike the interaction modalities described in the MLP, we observe an influence of GIs on the dominant system that is not only direct, but can also follow a two-step process: the movements associated with the GI influence the landscape (culture of sustainability) that, in turn, influences the dominant system (e.g. environmental regulation). Furthermore, the reference to the societal function was problematic in the analysis of urban mobility GIs: in Cycling and Shared Space, the most appropriate reference framework was the city, to be considered as a nexus of several societal functions. Then it is not surprising that the activists refer to livability, an issue that, in its broader meaning, includes all societal functions. All that considered, MLP levels and systems seem too rigid for the analysis of GI; more flexible concepts – such as "development arenas" (Jørgensen, 2012) – where endogenous and exogenous elements are not defined a priori, may be more appropriate in this respect.

Finally, a natural evolution of the present research would be the classification of the considered case studies into the typology of transition pathway proposed by Geels and Schot (2007). However, here too, it would be necessary to reconfigure their taxonomy in order to accommodate the GI-specific dynamics highlighted in this paper.

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