Innovativeness as Fresh Ground: From an Old Buzzword to New Praxis

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Abstract

Geographies of everyday life are subject to constant change. Social utilization and appropriation, attachment of meanings and negotiation, decay and restoration, planning and modification, artefacts and architectural alteration develop these spaces. In this paper, we regard spatial planning not only as an institutional category but as the intended alteration of geographies and as a core domain of geography with the strongest future-oriented impetus. People are agents and objects of spatial planning, being influenced and being potentially influential at the same time. We have to ask how people can participate in these changes, bringing in (and improving) creative approaches, thus innovating geographies and societies. This question emphasizes innovativeness, i.e. the ability to create innovations, as an educational aim. For this, we have to define the fuzzy term 'innovation' more clearly for an educational and a geographical context. In this regard, we enrich approaches such as Spatial Citizenship in which geomedia are used as tools to communicate about spaces in order to appropriate and change them.

Keywords:

innovation, innovativeness, geography education, planning, spatial citizenship

1 Introduction: Changing Geographies – Innovating Spaces?

Park Fiction is an art project that helped to realize the public Antoni/Gezi Park[1] in Hamburg (Germany). The design is based on ideas of residents from the local neighbourhood. Within this movement, participation and political formation (see Elwood & Mitchell, 2013) not only enabled the realization of the project against the municipality's original plans to use this valuable piece of riverside land to build profitable flats and office buildings, but also helped to come to a very extraordinary result. The park consists of walkable, useable and functional elements and installations such as the flying carpet (a wavy lawn for sunbathing), the palm

[1] The park was renamed Gezi Park in 2013 as an expression of solidarity with the protests in Istanbul (PARK-FICTION.NET 2016).

island (a hill with artificial palm trees) and the modest politician's bamboo grove (a conversation pit with plants around), which all have playful or hidden meanings. So, during the conception, not only did protests against official plans take place and awareness about the economic and/or social value of land increase, but also creative alternatives were developed. Initiated by artists, ideas were collected and refined in widespread and collaborative processes, including, e.g. a wish archive, a dough office (to allow everyone to produce three-dimensional plans) and a portable planning kit to be brought to residents. Playful, unorthodox forms of geomedia (on the far side of classical GIS) allowed very different and more or less precise ideas to be born, collected and elaborated, resulting in an unusual and doubtless innovative design for a park (park-fiction.net, 2016).

The idea of space behind this process is of space as relational, socially constructed and material at the same time. We strongly emphasize the importance of the attachment of meaning to space and the negotiation of this meaning and, based on this, the social production of rules influential for spatial action (cf. Werlen, 1993; Massey, 1998). Additionally, we are also aware of the significance of symbolic shapes (Paasi, 1986) or representations of space (Lefebvre, 1993), i.e. geomedia as communication about the meanings of spaces. These are the foundation of the material alteration of spaces which, following a conception inspired by the material turn (cf. Miller, 2010), both enables and hinders social action to a certain degree, and therefore is not only shaped by society but also shapes it. Park Fiction gives the impression of very lively and in many ways democratic spatial planning, with new, innovative material results that function as a promising basis to be valorized in everyday spatial practices.

In general, the aim of spatial planning is not to reproduce the past (other than in a very small number of reconstruction initiatives, such as the much-debated Berlin City Palace) but to react to or to induce changes – i.e. to be innovative. This concept is driven by the constant changes of life, society and humanity. When it comes to participation in planning processes, educational approaches such as Spatial Citizenship[2] that follow a humanistic ideal of education rather than a neoliberal praxis are aimed at. Nevertheless, the need for innovation and degree of innovation in alternative spatial visions are still blind spots, as theory (Gryl, 2013; Jekel et al., 2015a) and empirical work (Vogler et al., 2010) indicate. Participation has no real added value for society if the public contributes only what already exists. And if the present is not righteous and optimal for coexistence, involved participation processes are not worthy of the label 'innovation', including interest negotiation, at all.

The combination of spatial (or regional) planning and innovation is not new (Jekel & Fromhold-Eisebith, 2003; Ibert, 2003), although the theoretical depth varies greatly. Nevertheless, innovation is naturally an important aspect of the production of geographies that use planning tools such as geomedia (and geoinformation). However, as the theory gap in Spatial Citizenship shows, there is a lack of emphasis on the individual's abilities when it comes to the question of change in and with planning. Jekel et al. (2015a) have called this

[2] The authors of the Spatial Citizenship approach are aware that the term *citizenship* is not consistently defined and involves differing connotations. Therefore, they focus on concepts such as the 'actualised citizen' suggested by Bennett et al. (2009), which follows a humanistic and activist tradition. This theoretical basis of humanism applies to the term of innovation that the authors mark as a blind spot (Jekel et al., 2015a).

aspect 'innovativeness' – i.e. the ability to create innovations – which seems of central importance for learners as future designers of spaces in an ever-changing world. Based on first approaches linking geography education and innovation (Gryl, 2013), this paper will dig deeper into the theory of innovation in order to formulate a sound and viable concept as a basis of innovativeness which ultimately can be used to refine the Spatial Citizenship approach.

2 Innovation from Different Perspectives

The linkages between geography and innovation are particularly strong when it comes to planning – and economic geography. The latter clearly has its roots and inspiration in, among other things, the field of economics, examining the network of economic processes of action, place and space. In understanding the economy as a dynamic and evolving system, change is a key term within this analysis. From an applied perspective, common for economic geography, it is crucial to identify the factors of these processes in order to influence them. Consequently, an inevitable starting point for rethinking innovation in geography is insights gained from observing the economy with the help of the discipline of economics.

An even closer reference point to innovation in geography is the everyday impact of current geospatial technologies on spatially-related action, which makes these technological innovations a factor of change in the social construction of spaces – a valuable instrument that changes spatial-planning praxis, and an object of analysis from a scientific perspective. Therefore, the basis of technological innovations – scientific and, subsequently, technological development – is another reference point for understanding innovation in geography.

Geography therefore shows linkages to Höhne's (2012) central reference systems of innovation: science and the economy. Nevertheless, in order to define the term 'innovation', a meta-perspective on these systems is required, as indicated by John (2005), who refers to the disciplines of economics and technical sociology.

(Inter-)Disciplinarity: Innovation in Economics and Technical Sociology

Following Höhne (2012), science and the economy, as those societal systems that are most likely to innovate, show different modes of diffusion: where the mode of the economy is the market's readiness for an innovative product, the transfer mode of science lies in the communication of new theoretical knowledge. Similarly, John (2005) claims that the term 'innovation' is interesting for the economy and sociology. However, Höhne (2012) does not explain further why he differentiates between science and the economy when talking about innovation. For a deeper understanding and to define the term more precisely, it seems reasonable to differentiate the uses of the term 'innovation' within the scientific disciplines of economics and technical sociology. This distinction enables us to view the meta-level of innovation.

The economic definition of innovation is the one most often referred to when the term innovation is used. Furthermore, according to Rammert (2010), economics defines the term

the most unambiguously. This discipline regards innovation as development, implementation and utilization of new ideas, processes, products or procedures from which individuals, groups, organizations or companies benefit (Maier et al., 2001). Innovation is the impetus and goal of economic attempts to keep pace with competitors (John, 2005). From this perspective, innovation has to be something new, especially in terms of technical invention (Godin, 2008). Moreover, innovation seems predictable from an economic viewpoint.

Schumpeter (2005 [1947]), one of the founders of the economic understanding of innovation (Höhne, 2012; John, 2005; Moldaschl, 2010), understood innovation as being boosted by a monopoly. However, innovations can also take place in smaller groups, e.g. in open-source contexts (Gryl, 2013). For Schumpeter (2005 [1947]), innovation means creative destruction, i.e. something must be destroyed in order to create something new. However, this seems to be just a part of the scenery, as there are also technical innovations which continuously coexist, like laptops, smartphones and tablets. Thus, John (2005) reinterprets the Schumpeterian creative destruction as the way in which every innovation leads either to destruction or to the addition of new elements.

The sociotechnical perspective describes innovation differently: innovation does not have to be something new, but it has to be new in the context in which it evolves (Moldaschl, 2010). This mirrors the fact that most economic inventions are developed out of something that already exists (Herb et al. (eds.), 1998). In the sociotechnical sense, innovation is a positively-connoted and intended change (Gryl, 2013), and not a phenomenon existing exclusively in the economy but in society as a whole (Rammert, 2010; 2012), such as innovations in science, education, politics and everyday life, as well as in the arts and culture (Rammert, 2010).

Sociology often differentiates between technical and social innovations. The former refers to engineering inventions whereas the latter means social changes as consequences and implications of such inventions (John, 2005), for instance the geoweb as described by Gryl et al. (2013). Concerning technical innovations as the basis for and/or consequence of social innovations, one can criticize the differentiation between these two innovation types (e.g. John, 2013). As a result, social and cultural sciences view technical and economic innovations as special cases of societal innovation (Rammert, 2010).

Since Gryl (2013) has already analysed the economic view of innovation and its potential value for geography education, the focus throughout the remainder of this article will be on a selection of sociological and pedagogical theories of innovation.

New and even Newer: Conservative and Progressive Innovation

From an educational point of view, the economic as well as the sociotechnical descriptions of innovation can be distinguished further. The term 'innovation' will thereby gain more clarity, but a paradigm shift that provides the central conditions for a social-scientific understanding of the term is also needed. The decisive factor of this postulated paradigm shift is the development of innovation and emancipation into leading categories of a new social-scientific understanding of society: "Society as a whole becomes the subject of social-scientific motivated and emancipatory innovation strategies" (Nahrstedt, 1988, p. 60, translated by the authors).

Two different views of innovation emerge: the more conservative one aims at the technical perfection of capitalism and, according to Wehle (1973), sees innovation as the planned and controlled change of a system. In this understanding, innovation becomes a system alteration, i.e. optimization. The other view is a more progressive understanding of innovation as the emancipatory upheaval of capitalism based on a socio-critical concept and the idea of system change. However, the conservative understanding rejects the progressive approach of innovation (Nahrstedt, 1988).

It is, however, unclear how the innovation concepts differ from each other. If we follow Nahrstedt's line of analysis, the progressive understanding of the term 'innovation' shifts to its being an interpretative term, in the fields of both the new and the traditional, but with a socio-critical thrust. At the same time, this understanding of innovation highlights a crucial gap in the economic understanding of the term which has dominated hitherto. This economic understanding may, due to product optimization within a given system, be mainly equivalent to conservative innovation (Nahrstedt, 1988).

Overall, Nahrstedt's explanations on the subject of innovation as an interpretative term are fragmentary. The opposition between the traditional and the new in particular does not clarify how the new is founded and who is in charge. This indicates that innovation as an interpretative term will become clearer in a societal, i.e. sociological, understanding, in contrast to its economic origin. This postulated paradigm shift seems a necessary condition for the current analysis of innovation as a descriptive category of various social-scientific contexts. Where geography is concerned, it means that even if the term is closely connected specifically to economic geography, social geography is key to linking innovation and geography more broadly.

3 When is an Innovation an Innovation?

As a concept that itself belongs to the domain of 'changing geographies' where the ability to innovate can help children to participate, it is necessary to define the edges of the word 'innovation' and to differentiate between innovation and change. With this differentiation, it can also be determined whether innovation can be planned, i.e. anticipated, or whether it stands outside of planning and behaves in a more evolutionary way.

Making of Innovations? Evolution and Planning

Often, it is not clear whether something is just change or already an innovation. This is because innovations are not recognizable at first sight. This difficulty occurs because of the paradoxical character of the term 'innovation'. On the one hand, innovation seems to be a time marker between old and new, former and prospective. On the other hand, this marker can be analysed empirically only to a limited extent (John, 2005), e.g. retrospectively. John (2006) claims that evolutionary theory is able to handle this paradoxical aspect of innovation. His understanding of evolution is not biological but sociological, in terms of natural, random change.

It is, however, debatable whether innovation is evolutionary (which includes its random character) or whether it is, rather, a planning resistance to random evolution. In society, the latter understanding is the more accepted view because of the prominent manner in which it is communicated in the mass media (John, 2013), and the strong link with economic aims. With planned innovation, "the unknown future can be specified" (ibid., p. 83, translated by the authors). However, equating innovation with planning leads to thinking that change is teleological and the future predictable (John, 2005). Consequently, the common link of spatial planning and innovation in geography needs to be questioned.

John (2006) refers to the Luhmannian interpretation (Luhmann, 1997) of neo-Darwinist evolutionary theory, according to which evolution is not a teleological plan with a specific goal of progress. Even through planned innovation, the future is not prewritten (John, 2013). Rather, following John (2006; 2005), evolution creates what is most unlikely. A certain random result can only be seen as useful from a retrospective point of view (John, 2006; 2005).

When innovation is seen as an evolutionary scheme, it aims at the persistence of success. From this angle, innovation is what continues, not what is rejected; it is what is successfully accepted. Consequently, innovation is not teleological but random, and not a process which is implemented with the help of decisions (John, 2013). As in evolution, the unforeseeable (Luhmann, 1997) – i.e. something which is possible but unlikely to emerge – comes into being with a high probability of lasting (John, 2005).

In the Luhmannian (1995) definition of evolution, there are three functional distinctions, or rather levels: variation, selection and restabilization. Variations are disturbances in routinized operations, like irritations when a problem occurs and interrupts a process. On the next level, selection, a choice is made whether to react to those irritations and solve the problem or not. Selection leads to a higher level of complexity, so that restabilization becomes necessary. Restabilization leads to further variations, which means evolution leads to further evolution (Luhmann, 1995; cf. John, 2013; 2005; 2006).

These three levels are also part of innovation, e.g. during consultation processes members of an organization do not have to select the variations which are recommended. However, if the variations are accepted, the expectations will also change when the operations are implemented. Even the rejection of a variation – negative selection – has consequences, such as knowledge of the alternatives that were rejected (John, 2005; 2006). In this way, "learning and forgetting are evolutionary consequences of innovations" (John, 2005, p. 59, translated by the authors; cf. John, 2006). As stated in John (2005; 2006), using these three different levels it is possible, to analyse innovation.

Innovation Control ex ante and Innovation ex post

Following on from the question of whether innovation can be planned or emerges randomly, one can ask whether innovation can be controlled or can only be marked as such afterwards. Eickhorst (1981) postulates that in a socio-cultural context, innovation has to be seen as an element of a communication process that spreads new ideas (for example) to the members of a social system. Whether a novelty can be marked as an innovation or not depends on the recipients' understanding and is therefore contextual. However, according to Eickhorst, an

innovation is present if an object is implemented into a social system (Eickhorst, 1981; cf. John, 2013). This is accompanied by the assumption that an innovation does not have to be completely new to be considered an innovation, but it has to be new in its context (Gryl, 2013).

According to Höhne (2012), innovation proves its significance as a result of its particular transfer process. Thus, it is reasonable – e.g. in the scientific context – to distinguish between new knowledge and innovative knowledge, because new knowledge has to be imparted to become compatible (cf. Rammert, 2010). This is likely when people or things benefit from a novelty (Butenko & Larouche, 2015; Stauffer, 2015). Hence, not all new knowledge retains the value of innovative knowledge. In this understanding, innovation becomes a result of a process of acceptance and functions as a seal of quality which is awarded ex post (Höhne, 2012). Therefore, a determination of innovation ex ante seems to be more or less impossible (Höhne, 2012; cf. John, 2012).

This distinction clarifies two different things: it conveys the paradigmatic difference between economic and scientific logic, which is significant for the identification of innovation; and it follows from this distinction that innovation(s) in a (socio-)scientific context cannot be defined as a purely instrumental, rational phenomenon, but as an assessment criterion. In addition, the problematization of innovation control, especially in the context of political ambitions (in education), becomes relevant, since these aim at the intentional control of innovations – which, however, corresponds more with the logic of the economic system. Especially in the context of teaching and learning, this understanding of innovation becomes problematic because this context is affected by the relation of intention and impact (which is always dangerous in teaching contexts). This relation has a further negative impact on the control of innovation. Yet, the question of just who the agents are who determine what is to be defined as an innovation in particular contexts remains unclear. The analysis of these agents is relevant because it touches on questions of power, in terms of how innovation(s) may contribute to empowerment, and of the redistribution of power. Although an education for Spatial Citizenship is affected by this problematic linkage of innovation and education, aspects such as empowerment are clearly central to it.

4 From Innovation to Innovativeness

We have shown that for a novelty to be marked as an innovation, it is important for it to be accepted. The difficulty inherent in innovation control has also been indicated. Thus, the ability to implement the new must be part of the expertise of humans to innovate. In what follows, we describe other aspects of this ability which we call innovativeness (following Jekel et al. (2015a)) that mitigate the problem, and explain the importance of a capacity for innovativeness in the context of a humanistic educational ideal.

Here and There: Neoliberal and Humanistic Education

The humanistic educational ideal states that humanity is only possible when people are reasonable, free, autonomous, individual, social, and able to think and act in a moral way, and

to develop themselves by their own efforts. A humanistic education thus aims at enabling emancipation (Zichy, 2010; Faschingeder et al., 2005).

However, since the post-war period neoliberalism has become a political concept and ideology which is omnipresent not only in politics and the economy but also in education (Novy, 2005). Whereas democratization was the educational doctrine in the 1960s and 70s, and the dogma was self-empowerment against societal power relations, recent reforms focus on competition, the economy and self-optimization (Bellmann, 2005; Faschingeder et al., 2005).[3] The function of education is to be a central factor of productivity, with goals of economic growth, competitiveness and employability, rather than an instrument in the creation of responsible citizens who are able to participate in society (Reinprecht, 2005). This phenomenon is often called "the economization of education" (e.g. Vater, 2007, p. 3; translated by the authors) or "neoliberal education" (Nikolakaki, 2012, p. 16).[4] Even if it provides learners with an economic understanding of innovation, and persuades them to be active and influential, action is kept within barriers, solidifying the existing system (Krautz, 2011).

In the view of the humanistic educational ideal, "individuals cannot be truly human" (Freire, 1970a, p. 72) when they are educated in a neoliberal way, because neoliberalism "has promoted a pathological sense of a citizen as a consumer rather than as historical agent" (Nikolakaki, 2012, p. 27), and students become politically illiterate, suffering from a naive and uncritical awareness of the world where reality is seen as something static that cannot be changed. They do not therefore exercise their responsibility (Freire, 1970b) – and hardly seem to influence, change and innovate society. Hence, a humanistic education seems essential for innovativeness and, vice versa, innovativeness is a basis for gaining maturity and overcoming the economization of education (cf. Gryl, 2013; Sünker, 2003). The idea of innovativeness seems ripe for implementation in the democratization of planning and the Spatial Citizenship approach, as it is connected to an appropriate humanity.

Active and Reactive Innovativeness

This leads us to innovativeness, which means the ability to innovate. This capability has several aspects: 1) being able to question social rules and routines and to perceive problems (reflexivity), and 2) possessing the ability to invent something with which these problems can be solved (creativity). Furthermore, one must 3) implement this creative idea (ability of implementation) (Gryl, 2013; cf. Jekel et al., 2015a, Stauffer, 2015, and Hartmann & Meyer-Wölfing, 2003). Innovativeness also includes other facets, which have not yet been completely worked out. But it has to include "all of the activities that innovation entails […] (e.g. experimentation, observation, analyses… even guessing)" (Stauffer, 2015, p. 170).

Although the term innovativeness itself is not yet well established, one can differentiate further between active and reactive innovativeness, as Hartmann &Meyer-Wölfing (2003) suggest (they use 'innovation' where we use 'innovativeness'). For these authors, active

[3] For a discussion of the theory of cultural hegemony, see Merkens (2002).

[4] The economization of education has other negative side-effects, such as exclusion and educational inequality (Reinprecht, 2005).

innovativeness indicates the subject's ability to contribute to the realization of an innovation, and to convince others – in terms of creativity[5] – of new ideas which they have developed themselves in order to initiate innovations. Reactive innovativeness again means the individual's ability to react to novelties and to develop appropriate attitudes towards changed relations that result from innovations. These attitudes towards the new ultimately form the basis for the development of new abilities, or rather of enhanced agency (Hartmann & Meyer-Wölfing, 2003).

The authors do not provide information about the interdependence of active and reactive innovativeness, but it can be assumed that both are part of the individual's abilities because there are no exclusion criteria to be detected. For our approach, reactive innovativeness is of peculiar interest because it is precisely the reactive side of innovation that allows us to think of innovativeness in terms of a meta-reflexivity that can mitigate the paradox of innovation control referred to above.

Ultimately, it can be presumed that the emergence of an attitude towards innovation which coincides with the development of new abilities in terms of enhanced agency also means that innovations can be recognized as such. To interact with novelties means to accept or negotiate these as such, and implicitly or explicitly to award or reject the quality seal of innovation. By following this argumentation, it can be predicted that the paradox inherent in intended innovation control can be mitigated to the extent that the subject can achieve an appreciation which does not take place solely afterwards – in other words, the emergence of attitudes and abilities that aim at meta-reflexivity and which are basically learnable (Gryl, 2012). At the same time, it can be assumed that mechanisms which underlie the context-specific evaluation and acceptance processes of innovation are learnable as well.

Thus, it seems quite possible for an individual who has knowledge of a context-specific evaluation praxis and is able to act critically and reflexively to gain a controlling ability with regard to the creation and implementation of innovations. In this case, situations of teaching and learning would not be as problematic as Höhne (2012) postulates. Instead, these situations would achieve particular importance in terms of empowerment for initiating and establishing innovations.

5 Summary: Innovativeness and Spatial Citizenship

In the light of the discussion above, Park Fiction can be described as an innovative example of Spatial Citizenship because the ideas are implemented bottom-up, against the municipality's original plans. To summarize: Gryl (2013) describes innovation as a positively-connoted and desired alteration which has been initiated randomly or consciously through a creative idea, whereby the alteration shows to a greater or lesser extent the violation of social rules and routines; innovativeness, on the other hand, means the ability to innovate (cf. Jekel et al., 2015a).

[5] We are aware that creativity is a complex attitude (cf. Kirchner, 2009) that needs further revision in future papers.

The considerations presented in this paper contribute to a rethinking of the term 'innovation' for educational purposes. The theories presented here can of course be subjected to further analysis. But for our current purposes, it is worth pointing out a number of implications of these theories for spatial planning, notably where the subject's participation is concerned and their ability to realize it. The distinction between innovation (from the domain of the economy) and innovativeness is an important one to understand, as we have shown. Additionally, much more attention needs to be paid to the appraisal of innovation. The idea of appraisal clearly goes beyond the innovator-centred concept used so far (Jekel et al., 2015a), adding the idea of the limits and chances of convincing communication. This approach also asks the question whether innovativeness can be planned and, regarding education, taught. However, it also provides additional power to the subject (e.g. children) to recognize or reject potential innovations as such. This raises questions regarding the specific abilities required within innovativeness. The answer is provided by the dual concept of reactive and active innovativeness, which is, additionally, key to handling the dilemma of the non-predictability of innovation, seeing the individual as being in a position both to initiate innovation and to appraise it, as in the Park Fiction example. Innovation manifests itself as a valuable instrument allowing a user to shape discourses and to influence society by providing and attaching meaning, and by selection and de-selection.

Concerning Spatial Citizenship – as an approach to spatial planning that takes the subject and their influence into account – this understanding of innovativeness might contribute to the idea of non-traditional participation, so-called formation (cf. Elwood & Mitchell, 2013), in which an aspect, an idea, a meaning, an irritation may be suggested then debated among equals, before spreading and being adopted, like the Park Fiction example. In Spatial Citizenship, reflexivity is not therefore simply a category based on fixed values but can intervene in the processes of the production of geographies through the attachment of meaning to physical space. Thus, reflexivity is an integral part of Spatial Citizenship, questioning existing rules in order to support the agents' real needs and not those that are imposed by society. Consequently, reflexivity is not only the starting point for the formulation of one's own – hopefully innovative – ideas, but also a category that is highly influential for the future, before the subject's active innovation has even taken place. With such an understanding of innovation and innovativeness, spatial planning theory as well as geography education must look more deeply into the processes of the adaption and ex post reactive creation of innovation and turn away from a primary focus on active innovation.

Geomedia are important communication tools in spatial planning and to support participation in both active and reactive innovativeness for the shaping of spaces. Additionally, as current geomedia do not have to adhere to traditional cartographic conventions (although many web maps reproduce their own conventions themselves), another aspect of innovativeness comes into play: the creative design of geomedia. Creative design has potentially at least two effects. Firstly, innovative designs might – to a certain degree – have advantages for gaining attention amid the everyday information overload, might encourage thinking, and might even help communicate ideas about innovative spaces, supporting reactive innovativeness. Second, outstanding design may, as the Park Fiction example illustrates, support innovation. And with such an open type of geomedia, detached

from conventions, even hypothesis-construction and interpretation would be potentially innovative acts, and innovation could become more openly what it already is: a multilateral, communicative and social process.

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