Just for Fun!
How Experimental Spaces Stimulate Innovation in Institutionalized Fields

Cartel, Melodie; Boxenbaum, Eva; Aggeri, Franck

Document Version
Accepted author manuscript

Published in:
Organization Studies

DOI:
10.1177/0170840617736937

Publication date:
2019

Just for Fun!: How Experimental Spaces Stimulate Innovation in Institutionalized Fields

Melodie Cartel, Eva Boxenbaum, and Franck Aggeri

Journal article (Accepted manuscript*)

Please cite this article as:
Cartel, M., Boxenbaum, E., & Aggeri, F. (2019). Just for Fun! How Experimental Spaces Stimulate Innovation in Institutionalized Fields. Organization Studies, 40(1), 65-92. DOI: 10.1177/0170840617736937

DOI: https://doi.org/10.1177/0170840617736937

JUST FOR FUN! HOW EXPERIMENTAL SPACES STIMULATE INNOVATION IN INSTITUTIONALIZED FIELDS

Mélodie Cartel
Grenoble Ecole de Management
12 rue Pierre Semard, 38000 Grenoble, France.
Email: melodie.cartel@grenoble-em.com

Eva Boxenbaum
Copenhagen Business School
Kilevej 14A, 2000 Frederiksberg, Denmark
Email: eb.ioa@cbs.dk
&
PSL Research University - MINES ParisTech
60, bd Saint-Michel, 75272 Paris Cedex 06, France

Franck Aggeri
PSL Research University - MINES ParisTech
60, bd Saint-Michel, 75272 Paris Cedex 06, France
Email: Franck.aggeri@mines-paristech.fr

Accepted for publication in *Organization Studies* July 31, 2017

Acknowledgements

We gratefully acknowledge highly valuable and constructive input from our associate editor, Charlene Zietsma, and three anonymous reviewers. We further thank our colleagues Marcos Barros, Greg Molecke, Gazi Islam, Fabian Muniesa, Candace Jones, Katherine Kellogg, Laure Cabantous, Jean-Pascal Gond, Yuval Millo, Benjamin Taupin, Davide Ravasi, Daniel Fixari and Eero Vaara for their insightful feedback on earlier drafts of this manuscript. We are grateful also to Jean-Yves Caneill without whom we could not have conducted all the interviews.

JUST FOR FUN! HOW EXPERIMENTAL SPACES STIMULATE INNOVATION IN INSTITUTIONALIZED FIELDS

ABSTRACT

This paper examines the role of experimental spaces as a source of institutional innovation. We investigate the case of an experimental space that was instrumental in initiating the institutionalization of the European Carbon Market. Our findings highlight the key role of emotions in the simultaneous distancing from institutionalized patterns, and engagement in an alternative action model. We subsequently develop a process model of how experimental spaces initiate institutional innovation in institutionalized fields. This model comprises three forms of institutional work. As previously established, *boundary work* consists delineating the space from the field, hence mitigating external institutional pressures. We argue that two additional forms of institutional work are required when field conditions are unconducive to institutional innovation. *Distancing work* consists in designing rules and procedures that alleviate space members' deep-seated attachment to the field's dominant models. *Anchoring work,* refers to the design of rules and procedures that connect the experimental space and the solution developed inside it to the field, hence facilitating its broader diffusion. We conclude with a discussion of how the design of experimental spaces and the deliberate use of emotions open new doors for generating institutional innovation.

Key words: Anchoring Work, Boundary Work, Distancing Work, Positive Emotions, Emotional Facilitators, Emotional Inhibitors, Experimental Spaces, Institutional Innovation, and Institutional Work.

INTRODUCTION

How can actors deliberately provoke institutional innovation in institutionalized fields? This study examines the role of small-scale experimental settings, namely “experimental spaces,” in initiating institutional innovation. Experimental spaces refer to temporary experimental settings where field actors gather and experiment with alternative models of action (Zietsma & Lawrence, 2010). For instance, a US energy company set up such an experimental space in the late 1980s to investigate an original action model for mitigating climate change, later known as the “offsetting” model (Lohmann, 2006; Moura-Costa, 1996). Many years later, offsetting became a key feature of the United Nations’ climate policy instrument (Cornut, 2000; Wittman & Caron, 2009), subsequently impacting worldwide ideas, practices and laws related to the mitigation of climate change. Such experimental spaces have been identified as potentially highly-important loci of institutional innovation (Canales, 2016; Zietsma & Lawrence, 2010; see Muniesa & Callon, 2007). However, it remains a puzzle how actors design experimental spaces that successfully stimulate institutional innovation in institutionalized fields where members are generally disinclined toward institutional change.

Previous work has emphasized the role of boundary work in designing experimental spaces that successfully initiate institutional innovation (Canales, 2016; Zietsma & Lawrence, 2010). Boundary work delineates a space from the field by assigning membership, deciding on when and where members meet, as well as what they do within the space (Bucher & Langley, 2016; Bucher, Chreim, Langley & Reay, 2016; Gieryn, 1983). A core argument is that boundaries protect space members from external pressures to conform to institutionalized scripts and help them let go of their social roles (Canales, 2016; Mair & Hehenberger, 2014). However, we know little about how to design experimental spaces when space members firmly adhere to the status quo. In particular, recent studies point out to the emotional attachment that individual actors have towards the status quo (Voronov & Vince, 2012; Fan & Zietsma, forthcoming).

This emotional attachment grows with the degree of institutionalization of the field and with actors' centrality in the field. This paper advances insight into how the design of experimental spaces stimulates institutional innovation despite actors' emotional commitment to maintain the status quo.

Empirically, the present work examines an experimental space named the Greenhouse Gas and Electricity Trading Simulation (GETS), from 1998 to 2002. GETS was an initiative of Eurelectric, the professional association of the European electricity sector which was instrumental in creating the directive, adopted in 2003, that established carbon markets in Europe. We find that design features determined the experimental space's ability to produce institutional innovation in a field that initially opposed the carbon market model. The design of GETS encouraged participants to simultaneously *distance* themselves from cherished ideas and social identities and to *anchor* their solution in the European field of climate regulation. Over time, the balance and careful shifts between *distancing work* and *anchoring work* in the design of GETS was instrumental in initiating the institutionalization of the European carbon market.

This paper makes two main contributions to the institutional literature on innovation. First, we contribute to the literature on spatiality and institutional innovation (Hardy & Maguire, 2010; Furnari, 2014; Mair & Hehenberger, 2014). More specifically, we theorize how the design of experimental spaces relates to their ability to initiate institutional innovation (Canales, 2016; Zietsma & Lawrence, 2010). Complementary to boundary work, we introduce the notion of *distancing work,* which refers to the creation of rules and procedures that help participants temporarily bracket their own emotional attachment to the field's dominant models. We also introduce the notion of *anchoring work,* which refers to the effort of connecting the solution created inside the experimental space to the wider field outside, facilitating its progressive acceptance at the field level. Second, we contribute to the growing literature on the role of emotions in institutional dynamics (Voronov & Vince, 2012). In particular, we elaborate on the notion of emotional facilitators (Csikszentmihalyi, 2014; Fan & Zietsma, forthcoming) and propose the related notion of emotional inhibitors. At the collective level, emotional inhibitors mitigate the social sanctions that apply to those that diverge from the status quo. At the individual level, emotional inhibitors help bracket cherished ideas and negative perceptions related to alternative models.

EXPERIMENTAL SPACES AND INSTITUTIONAL INNOVATION

Experimental spaces refer to temporary situations of interaction in which a restricted community of actors experiments with new solutions (Bucher & Langley, 2016; Canales, 2016; Zietsma & Lawrence, 2010). Empirically, experimental spaces exist at both the organizational and the field level. This paper focuses on field-level experimental spaces. Fields are analytically distinct from spaces. They are composed of "organizations that, in the aggregate, constitute a recognized area of institutional life," (DiMaggio & Powell, 1983). Organizations that belong to the same field engage in two types of interaction. One of them is daily, repeated interactions that are governed by highly institutionalized scripts, for instance between buyers and sellers of the same value chain (Scott, 2001). The other one is ad hoc interactions that take place in temporary settings referred to as *spaces* (Hardy & Maguire, 2010; Mair & Hehenberger, 2014; Mair et al., 2012).

Key Characteristics of Experimental Spaces

In this study we define experimental spaces as transitory social settings where field actors experiment with alternative action models. Experimental spaces include both *in vivo* experiments (Callon, 2009) in which multiple field actors conduct practical experiments in a defined place (Canales, 2016, Zietsma & Lawrence, 2010) and *in vitro* experiments (Muniesa & Callon, 2007), for instance on online platforms where actors meet online and collectively test new financial products (Muniesa, 2003). As the name indicates, experimental spaces host experimental interactions. In experimenting with alternative models, they stimulate the formation of “shared practical understandings” of these models (Schatzki, 2001: 2). Their participation in collective experiments allows the members of an experimental space to assess the efficiency of the alternative model compared to the existing situation, before demonstrating it to others. Participants experiment with prototypes, fail, learn from their failures, and iteratively develop effective practices (Canales, 2016). This feature distinguishes experimental spaces from other categories of spaces such as discursive spaces (Hardy & Maguire, 2010), or spaces for equals (Mair, Martì & Ventresca, 2012) in which alternative cognitive models are discussed but are not developed into practical models nor experimented with concretely. Conversely, discursive interactions are not excluded from experimental spaces. On the contrary, they are crucial to both the briefing and debriefing of experiments run within experimental spaces. These discursive interactions revolve around the sharing of practical experiences and the potential refining of a prototype, which represent the core activities in experimental spaces.

Experimental spaces host formal, professional interactions. Membership in these settings is closely controlled and often based on invitation (Zietsma & Lawrence, 2010). This characteristic distinguishes experimental spaces from interstitial spaces (Furnari, 2014). Whereas both experimental spaces and interstitial spaces host collective experiments that favor the exploration of novel action models (*ibid*.), interstitial spaces bring together actors from adjacent fields and host informal and occasional interaction between them, such as pet projects and part-time hobbies (*ibid*.). Fablabs, which bring together engineers, architects, designers, students and general techno-enthusiasts to experiment with laser cutters and 3D printers in their free time, qualify as interstitial spaces.

The Design of Experimental Spaces for Institutional Innovation

Our particular interest lies in the intentional design of experimental spaces to successfully initiate institutional innovation. To examine this topic, we embrace the perspective of institutional work (Lawrence & Suddaby, 2006; Lawrence, Suddaby & Leca, 2009; 2011; Lawrence, Leca & Zilber, 2013), which acknowledges the intelligent and purposive effort of agents as they attempt to influence institutional processes (Lawrence & Suddaby, 2006). Institutional work operates in a context where some field actors work to disrupt existing models and/or create new ones, while others work simultaneously at maintaining existing ones (Dansou & Langley, 2012; Slager, Gond & Moon, 2012; Zietsma & McKnight, 2009). Institutional innovation occurs when the cumulative outcome of these distributed impulses tilts toward the institutionalization of an alternative model. The act of designing an experimental space qualifies as institutional work when actors deliberately build it to develop divergent action models while other field actors seek to protect the status quo.

The design of experimental spaces involves intense boundary work (Bucher & Langley, 2016; Zietsma & Lawrence, 2010). Boundary work refers to any strategic activity aimed at constructing, defending or disrupting distinctions between collectives of actors (Gieryn, 1983; Helfen, 2015; Stjerne & Svejenova, 2016). Since it delineates the inside of a space from the outside, boundary work is central to the construction of experimental spaces (Bucher & Langley, 2016; Zietsma & Lawrence, 2010). It is a mainly discursive activity (Bucher et al, 2016) that defines who is a member and who is not, and that specifies where members meet and for how long (Bucher & Langley, 2016). Essentially, the purpose of boundary work is to encourage field actors to engage with models that diverge from institutionalized scripts, by creating a protected arena where actors can "let go of these scripts and expose subjective experiences" (Mair & Hehenberger, 2014: 1181).

The nature and purpose of boundaries differ from one experimental space to another. For instance, Zietsma and Lawrence (2010) describe the experimentation of alternative harvesting practices as protected from the field by restricted membership and physical separation from daily activities, which kept the space a secret for other field members. Experimental spaces are often characterized by discretion or even secrecy in order to avoid peer's scrutiny and "institutional discipline" (Canales, 2016; Zietsma & Lawrence, 2010: 202). Depending on the sensitivity of the issue being addressed, the level of discretion surrounding experimental spaces may vary from industrial secrecy to informal protection of participants' identity such as Chatham House rules. Secrecy provides safe conditions for members of an experimental space to engage with alternative models in ways that would not be possible if these activities were publicly visible (Polletta, 1999; Polletta & Jesper, 2001). In other instances of experimental spaces, boundaries have a symbolic function (see Lamont & Molnár, 2002), as in the case of "rotational programs" and "pilot projects" (Canales, 2016). Symbolic boundaries serve to contain external opposition to the models developed inside the experimental space, by "downplaying its ambition" (Canales, 2016: 1562) and indicating reversibility (Bucher & Langley, 2016).

The ability of boundary work to free space members from dominant field models has only been observed in cases where the said members already have either economic (Canales, 2016), reputational (Zietsma & Lawrence, 2010) or social (Hardy & Maguire, 2010) incentives to challenge the status quo. However, recent work stresses the deep allegiance that certain individual actors pledge to the institutional models by which they abide and to which they are emotionally committed (Creed, Hudson, Okhuysen & Smith-Crowe, 2014; Voronov & Vince, 2012). Boundaries may well be sufficient to encourage individual actors to overcome institutional pressures to conform if they are already engaged in alternative ideas (Mair & Hehenberger, 2014; Zietsma & Lawrence, 2010). Nevertheless, they might not suffice for individual actors to overcome the emotional attachment that they may experience toward the dominant model of action in their field. Emotional attachment to institutionalized models of action is common in all fields but may be particularly prevalent in "emotionally engaging" fields such as those organized around sustainability issues and the management of common goods (Fan & Zietsma, forthcoming). We hence pose this first research question: *How does the design of experimental spaces weaken individual participants' emotional attachment towards a dominant model in the field, thereby enabling them to experiment with alternative models?*

While boundary work delineates a safe space where actors can experiment with alternative models, boundaries can also jeopardize the ability of such alternative models to become institutionalized. On the one hand, experimental spaces are conducive to the generation of novelty because they are separated from the field. On the other hand, this same feature of experimental spaces also limits the spread of alternative models beyond space boundaries. If alternative models generated within experimental spaces are to qualify as institutional innovations, they need to diffuse beyond experimental spaces. By simply removing boundaries around the experimental space, the diffusion of an alternative model may be facilitated (Zietsma & Lawrence, 2010), at least when field conditions are conducive to institutional change. When they are not, the alternative model may fail to spread and potentially produce a negative backlash that may even reinforce the status quo in the field. To show how experimental spaces can be designed to generate institutional innovation when field conditions are unconducive to institutional change, we pose the following second research question: *How does the design of experimental spaces facilitate the field-wide spread of alternative action models when the field is non-conducive to institutional change?*

METHODS

The Empirical Setting

The European field of climate regulation

The context for this study is the European field of climate regulation from 1998 to 2002. The field was composed of: the European Commission that in 1998 was in charge of drafting a directive to curb industrial carbon emissions; leading energy companies (oil, heat and electricity) and energy-intensive companies (i.e. companies that intensively rely on the use of energy for their industrial processes such as in the chemical, glass, paper and steel industries) that were responsible for most industrial carbon emissions; intergovernmental agencies such as the International Energy Agency and the OECD, in charge of producing economic scenarios and trends for decarbonation and providing policy makers with advice; environmental NGOs that were watching the policymaking process closely; and environment Ministries of the member states that were voting on directives at the Commission.

While the European field of climate regulation was still young in 1998 – the field emerged in 1992 with the European Commission's carbon and energy tax proposal – power relations and dominant action models were already quite well established in the field. As such, the European carbon market that was adopted in 2003 was considered an important institutional innovation in the European field of climate regulation (Christiansen & Wettestad, 2003; Delbeke & Vis, 2015; Ellerman, Convery & de Perthuis, 2010).

The carbon market model, the carbon tax model and the voluntary agreement model

In 1998, three action models were possible for the European Commission to make this the cornerstone of its climate policy: the carbon market model, the carbon tax model, and the voluntary agreement model. None of the key actors in the European field of climate regulation supported the carbon market model. The European Commission was strongly committed to the carbon tax model on which it had been working since 1992. It had also been one of the strongest opponents of the carbon market model (Cass, 2005; Damro & Mendéz, 2003; Wettestad, 2005), against which it had pleaded in the cycle of conferences leading to the Kyoto Protocol, mainly because "*it was not regulation in the traditional sense of regulation. It was using markets, and you can't trust markets"* (European Commission 1, 2015). Environment Ministers, whose approval is crucial for a directive to be enacted, framed carbon markets as immoral. Based on the position of environmentalists, they opposed the idea that *"you could trade on the back of the environment, right to pollute sounded like a right to kill, it sounded immoral"* (European

Commission 1, 2015). As for carbon intensive companies, they were strong advocates of the voluntary agreement model, in line with liberal values promoting low state intervention and self-regulation. They had demonstrated their power in the field as they had successfully lobbied against the European Commission's carbon and energy tax proposal (Braun, 2009). Hence, in most countries, companies had been working with their governments to establish voluntary agreements.

Experimenting with carbon market prototypes inside the GETS experimental space

In this context, Eurelectric, the professional association of the European electricity industry, ran an experimental space named GETS. Despite strong opposition to the carbon market model in the electricity sector, they used the space from December 1998 to December 2002 to experiment on the carbon market model.

Data Collection

Our goal was to capture the role of the GETS experimental space design in the policymaking process that led to the proposal (2001) and later the adoption (2003) of the directive "establishing a scheme for greenhouse gas emission allowance trading within the Community." We collected "longitudinal data" in order to observe how this process unfolded over time (Langley, Smallman, Tsoukas & Van de Ven, 2013). We relied on multiple sources combining archival data (Wright & Zammuto, 2013; Maguire & Hardy, 2013) and interviews.

Archival data

We first collected archive documents from the GETS experimental space (internal documents such as: companies' internal reports, GETS simulation reports, and action notes of GETS meetings; and public documents such as: Eurelectric's official position papers on carbon markets, and its PowerPoint presentations in side events at the United Nations). We complemented these archives with official documents released by the European Commission, on the making of the European carbon market (e.g. draft projects, green papers, white papers).

We also accessed the online archives of the stakeholder consultation meetings (most of them have now been removed from the website) where the details of the directive were discussed and negotiated. These documents provided us with valuable information on: (1) how the GETS experimental space was designed; and (2) how the design of the GETS experimental space affected discussions and actors' positions on the carbon market model in the field.

Interviews

We held 28 semi-structured interviews (see Table A1 in the Appendix*) with the three types of actors that composed the GETS experimental space. We managed to obtain access to the participants of GETS ten years after the experiment, even though they had moved on to much higher positions[1]. Interviews lasted between thirty minutes and two hours. Sixteen of the interviews were audio-recorded and fully transcribed. The others were manually transcribed through detailed notes. Certain key actors were interviewed twice in a second round of interviews for triangulation purposes. We designed our interviews in line with methodological recommendations for qualitative process studies (Langley, 1999; Langley et al., 2013). More precisely, having identified a list of design activities involved in the making of the experimental space in the archival data (GETS reports, minutes of meetings for the design of GETS, diaries and internal newsletters accounting for the design of GETS), we asked our respondents why these activities were undertaken, whether they were important or not, and how they affected the capacity of the European Commission to prepare a consensual proposal directive.

We classified interviewees in three categories according to their formal role in the GETS experimental space. *Managers* were the actors that designed and ran the experimental space: Eurelectric, the International Energy Agency, a Stock Exchange company, and a consulting firm; *participants* were the companies that volunteered to take part in the experiment; and

[1] During her doctorate, the first author was invited to shadow the Head of Climate Policy in a leading French energy company at several climate summits where she made the acquaintance of most of the former managers of GETS.

observers were those actors that were either formally invited to watch the experiment or informally involved: economists and think tanks that were regularly asked for advice and members of the European Commission's team in charge of writing the European climate policy directive proposal.

Data Analysis

We analyzed our data in three steps. First, we built a chronology of events that led from the Kyoto Protocol in 1997 to the institutionalization of the European Carbon market (see Table A2 in the Appendix*). This chronology acknowledged developments at three levels: the experimental space; the European field of climate regulation; and international climate policy developments. Drawing on both our archives and our interviews, we then decomposed our flow of longitudinal data into comparable units of analysis (Langley, 1999; Langley et al., 2013). We obtained a time sequence of four stages that we had verified by two experts from the field: (1) *Opening the space*; (2) *Designing the space for learning*; (3) *Connecting the space to the field*; and (4) *Closing the space* (see Table A3 in the Appendix*). We subsequently wrote a fifteen pages narrative that reflected what happened inside the experimental space at each stage. In the first stage, *opening the space*, electricity utilities met inside the experimental space to discuss the carbon market model and did not agree to promote it at the European Commission. In the second stage, *designing the space for learning*, electricity utilities met inside the experimental space again and endorsed the carbon market model after engaging in a serious game on carbon trading. In the third stage, *connecting the space to the field*, new actors from energy intensive industries (oil, chemical, glass, paper and steel industries) joined the experimental space and endorsed the carbon market model after engaging in a serious game on carbon trading. In the fourth stage, *closing the space*, a consulting firm ran a sensitivity analysis to legitimize the carbon market model in the field.

Second, we distilled empirically grounded concepts from our data – concepts that would explain this specific sequence of events. The whole coding process yielded three empirically grounded concepts, one of which was already identified in the literature. *Boundary work* consists in separating the space from the field, hence mitigating external institutional pressures (Bucher & Langley, 2016). Complementary to boundary work, *distancing work* consists in designing rules and procedures that alleviate institutional pressures arising inside the experimental space from members' deep-seated attachment to the field's dominant action models. *Anchoring work* refers to efforts to connect the experimental space and the solution developed inside it to the field.

To generate these three key concepts, we started with a round of open coding (Strauss & Corbin, 1998; Corbin & Strauss, 2008) in which we traced instances of the design of the GETS experimental space. We favored *in vivo* coding so that our code labels would correspond as much as possible to our informants' terms (Gioia, Corley & Hamilton, 2012). The first round of open coding produced a considerable number of codes (253), which we reduced to a more manageable number (74) by identifying similarities and differences among them (Gioia et al., 2012). We then engaged in axial coding (Corbin & Strauss, 2008), yielding 23 first-order categories (see Figure 1). We subsequently started a feedback loop between the data and the literature to generate second-order themes. In this process, for instance, we grouped the first-order categories "Composition reflects the field", "Including features to the prototype to build a bridge with other field initiatives" and "Schedule follows the consultation process" under the same second-order theme: *Connecting the space to the field*. This reduction process resulted in ten second-order themes (see Figure 1). We finally aggregated these ten second-order themes into three more abstract aggregate dimensions, *boundary work*, *distancing work* and *anchoring work,* which capture three key elements in the design of the experimental space (see Figure 1).

Insert Figure 1 about here

Third, we articulated this static coding structure with the sequence identified in stage 1 (see Table A4 in the Appendix*). The objective was to identify which of the three forms of design work (boundary, distancing or anchoring) were at play at each stage. For instance, we identified that only boundary work was at play in stage 1 (opening the space). As such, we defined the *opening configuration* as a situation in which the experimental space has been delimited by boundary work, but where there has been neither distancing work nor anchoring work. Similarly, we identified that only distancing work was at play in stage 2 (designing the space for learning). We labeled this configuration of the experimental space the *learning configuration*. In stage 3, the managers redesigned the space, using both distancing and anchoring work into a configuration which we labeled the *connecting configuration*. Finally, the design of the *closing configuration* involved only anchoring work.

Over all, our identification of these four successive configurations of the experimental space's design enabled us to produce a dynamic account of the process whereby the design of the experimental space led central field actors to initiate institutional innovation in the European field of climate regulation; one that was both empirically grounded and theoretically relevant. We present this account in the findings, and then in a separate section we present the process model that we derived from the analysis.

FINDINGS

From 1998 to 2002, the European field of climate policy transitioned from reluctance to endorsement of the carbon market model. By 2003, the carbon market model was formally enacted as the cornerstone of European climate policy. Our findings pertain to the institutional work at play in the design of the GETS experimental space, which was highly instrumental in enabling this institutional transition.

Opening Configuration – 1998: Boundary Work

Deciding to create an experimental space

It may seem paradoxical that Eurelectric, the organization that defends the electricity sector's interests in Europe, decided to perform an experiment on carbon markets. Until 1998, the electricity sector had opposed any regulation that would assign a price to carbon (Newell & Paterson, 1998; Wettestad, 2005). Eurelectric's decision to experiment with carbon markets was triggered by a major political shock: the Kyoto Protocol. The Protocol is a United Nations' treaty that assigned carbon emission reduction targets to European countries[2] (see Table A2 in the Appendix* for a complete chronology) and thus officially put carbon markets on the international agenda. Subsequently, a feeling of urgency arose in the electricity sector (Damro & Mendes, 2003; Cass, 2005). Immediately after the announcement of the Kyoto Protocol, Eurelectric organized meetings within the so-called "working group on climate change" to discuss their next move. The group was composed of twenty-two members: two representatives of Eurelectric and twenty representatives of Eurelectric's members, mainly utilities from different European countries. Discussions were tense. As utilities had differential exposure to carbon regulation, depending on their production mix, the discussions were pulled in different directions. After some intense discussions, the working group nevertheless agreed to further explore the carbon market model, which it saw as "*the 'least worst' option*" (Manager 1; 3, 2016).

> *"A British member said 'why don't we go away for a week-end, sit around a table and trade?' Everyone said 'yeah that's a sort of a good idea'.*" (Manager 1; 1, 2015)

[2] The Kyoto Protocol assigned emission reduction targets to a group of countries referred to as Annex 1 countries: industrialized countries that were members of the Organization for Economic Co-operation and Development in 1992, as well as a short list of countries with economies in transition.

Setting a social boundary

Eurelectric invited its members to participate in the GETS experimental space. Most utilities were reluctant to participate in GETS, for the act of participating could be interpreted as a public signal that electricity companies endorsed the carbon market model. Certain companies were asking questions such as "*do we really want to do this?*" (Manager 2, 2015). To convince utilities to participate, Eurelectric made a gentleman's agreement with them: the experiment would be performed under the radar.

> "*We did it very discreetly, particularly because [Participant Elec 1] absolutely didn't want people from the outside to know that they had participated in such a thing… That was basically the atmosphere... So by doing it discreetly, we created a climate of trust that was sufficient for the actors to agree to play the game*." (Manager 3; 2, 2016)

Eurelectric's decision to keep the experiment secret until the results were known drew a social boundary between the members and non-members of the experiment (see Bucher & Langley, 2016).

Setting a symbolic boundary

When participants first met in the opening configuration, they expressed opposition to experimenting on the carbon market moedl. Instead of organizing a real-scale initiative, Eurelectric decided to experiment with carbon trading as a serious game. In organizing a serious game, GETS differed from other experiments on the carbon market model that took place over the same period. Among the most famous, the oil company British Petroleum (BP) launched an internal carbon market from 1998 to 2001 (Victor & House, 2006). But whereas others performed emission trading "for real," Eurelectric designed a playground where companies could experience carbon trading as a fiction, protected from financial consequences. The organization of an apparently inconsequential game addressed most of the participants' concerns and hence made their participation more attractive. Eurelectric's decision to experience carbon trading through a serious game drew a symbolic boundary between the field and the experimental space (see Bucher & Langley, 2016; Canales, 2016).

To design the serious game, Eurelectric teamed up with a stock exchange company that provided them with a trading platform. Eurelectric also asked the International Energy Agency (IEA) to help design the rules for carbon trading.

Learning Configuration– 1999: Distancing Work

In 1998, the managers designed the experimental space so that it would stimulate learning about the carbon market model in the electricity sector. They engaged in intense distancing work which generated a learning configuration.

Facilitating open-mindedness among participants towards the carbon market model

As the great majority of participants opposed the carbon market model, the managers engaged in distancing work to favor intellectual openness. The distancing work was directed at the experimental situation itself and aimed to cognitively loosen the prejudice that participants had against carbon markets. This work differed from the boundary work that protected the space from external pressures and scrutiny.

A first effort of distancing consisted in neutralizing patterns of dispute. The theme that triggered the most intense reactions was the price of carbon. Speculation on the level of the carbon price regularly generated tensions, particularly between coal-based electricity producers and other producers relying on less carbon-intensive production capacities. The managers consequently sought to design the experimental situation in such a way that it would neutralize (i.e., bracket) the stormy debates about the price of carbon inside the experimental space.

> "*We wanted to do away with the impression that the objective of the simulation was to determine the price of carbon […]. It was a learning exercise for the industry to learn about the instrument*" (Manager 2, 2015)

To circumvent these debates, the managers designed fictitious experimental conditions that would make it impossible for the experiment to reveal the "true" price of carbon. They used fictitious prices for fuel and raw materials, and made them vary from one experiment to the other. They also asked participants to create a virtual company profile with fictive energy mixes – another important variable in setting the price of carbon. Initially, the idea had been to create a fake currency for the experiment but this was dropped due to time constraints.

The fictitious approach worked. The participants confirmed that distancing from the price of carbon helped them adopt a learning posture toward carbon markets.

> "*It [the fictitious price] was very important yes. This type of simulation can't provide information on the real price of carbon. So the objective has always clearly been to perform this simulation to acquire knowledge on how these mechanisms worked as well as on which methodologies we should introduce at the firm level*." (Participant Elec 3, 2015)

A second distancing effort consisted in preventing self-censorship. The managers aimed for an experimental situation that would relax peers' scrutiny at both the intra-organizational and inter-organizational levels. At the intra-organizational level, they anticipated that hierarchy would oppose the testing of certain strategies.

> "*If we had known precisely who was behind which virtual company, anyone could have sensed individual competitive strategies.*" (Manager 1; 2, 2015)

At the inter-organizational level, the managers expected that participants would not dare to test all the market strategies that appealed to them to protect their own reputation in the field. To prevent such self-censorship, Eurelectric anonymized the experiment. Participants had to create an avatar. In order to manage anonymity in practice, the managers then hired a neutral agent who would blur the relationship between the actual company and its avatar.

> "*I think [the participants] felt liberated from their organization's strategic obligations. I think [the distancing work] gave them some sort of 'carte blanche'.*"
> (Manager 2, 2015)

The use of avatars and an external intermediary provided participants with sufficient anonymity to encourage experimentation with options that they otherwise might not have entertained.

Engaging participants emotionally to promote learning

In January 1999, nineteen electricity companies had volunteered to participate in the experiment. When the managers launched the experiment, they were "*quite pleased that it worked*" (Manager 1; 2, 2015). Most of the participants met their targets. Some of them even went beyond their carbon emission objectives by investing massively in renewables. Only two participants did not meet their targets. According to the managers, these participants may have decided to sabotage the game.

While part of this success relates to the deliberate design of the experimental situation to facilitate open-mindedness, our findings suggest that another form of distancing, emotional distancing, was at play during the trading sessions. Emotional distancing refers to the fact that during the trading sessions, participants let go of their mistrust of the carbon market model, to fully engage in the experiment. According to the managers, emotional distancing was unintentional. Participants identified two design elements that triggered emotional distancing: the tight schedule and intellectual stimulation.

The tight schedule resulted in engaging sessions. For eight weeks, starting in May 1999, a trading session was organized every Wednesday (see Table A5 in the Appendix*). Usually, participating companies formed internal teams of about three people, with one person from trading, one from production, and one from sustainable development. According to the participants, the sustained pace of the experiment made it difficult for them to maintain a critical attitude toward the carbon market model. The experiment was designed to encourage participants to focus on winning the game – i.e. complying with the carbon target – which required them to engage in a series of fast tactical decisions.

Emotional stimulation also encouraged participants to engage with the carbon market model. As the experimentation unfolded, participants started to nurture an intellectual interest in carbon markets. They remember having fun and being *"exalted because it was new and we were taking new types of decisions on a generation fleet, on electricity purchases, on emission permit purchases…"* (Participant Elec 1, 2015). Such forms of emergent intrinsic motivation (see Csikszentmihalyi, 2014) focused the participants' attention on the challenge, made it easier for them to give up their roles as social actors, and helped them let go of their reflexive position.

> "*We had a lot of fun* […].*We were quite excited and also we had this trading expert with us who showed us a few tricks how you can push a market in this or that direction. That was quite fun*." (Participant Elec 2, 2015)

The growing emotional engagement of participants triggered the progressive appropriation of the carbon market model.

Objectifying the results of the experiment

During the trading sessions, both participants and managers observed that what they *"thought was impossible was actually pretty easy*" (Participant Elec 4) and that "*being able to rely on a price of carbon helped compliance*" (Participant Elec 3). Some participants even noticed they were making "*lots of money"* (Participant Elec 2). After the experiment was complete, the managers called together the participants to discuss the results and move from individual practical understandings to shared practical understandings (see Schatzki, 2001: 2).

The serious game had created a friendly atmosphere among participants. They challenged each other on their performance, joked about their failures, bragged about their successes. A new dynamic arose in the working group. Driven by the excitement and satisfaction of having successfully met their challenge, members engaged in intense discussions to derive a general theory of the carbon market model from their individual practical experiences. Moving from individual to collective understandings amplified the participants' feeling of being part of something bigger; of acting for the common good. The group's commitment toward the carbon market model grew and they ended up devising a collective strategy to promote the carbon market model outside the space, adopting an official stand in favor of it. Moreover, it appears that the GETS members have "*followed each other ever since*" (Manager 2, 2015). The social bond created during GETS did not dissolve after the experiment ended. The group still sits together in climate conferences and encounters; and they continue building shared positions on various political matters as a team. As such, the social emotions of "trust, respect and liking" (see Fan & Zietsma, forthcoming: 39) that participants developed through the game seem to have triggered a deep sense of belonging among them.

In order not to impose its own view on the working group, Eurelectric delegated the drafting of the conclusions of the experiment to the two other managers who were external to the electricity sector.

> "*They wanted something that was common, easily appropriable and not labelled as* [Eurelectric]. *They* [Eurelectric] *were looking for an objective voice that would not be dubious. [...] the International Energy Agency conveyed an image of great objectivity.*" (Manager 2, 2015)

The purpose of drafting the conclusions was to objectify the reality of what the participants had observed and experienced in the experimental space.

Connecting Configuration – 2000: Distancing Work and Anchoring Work

The first GETS experiment had triggered "*a radical position shift*" in the electricity sector from carbon market reluctance to carbon market endorsement (Manager 1; 2, 2011). Following the experiment, Eurelectric drafted a position letter to the European Commission stating that it was in favor of the carbon market model. This political move brought Eurelectric closer to the European Commission which, having failed to gather support for a carbon tax, did consider carbon markets a possible alternative model (Wettestad, 2005). However, they faced intense opposition from other major stakeholders in the European field of climate policy. A group of energy-intensive industries were also targeted by the European Commission to be part of a global political scheme to tackle climate change, namely the chemicals industry, the oil and refining industry, the glass and building materials industry, the paper industry, and the steel industry. These actors seemed to perceive the newly formed alliance between the European Commission and Eurelectric as a threat. Several of them accused Eurelectric of using GETS to promote rules that would benefit only the electricity sector. They argued that the electricity sector would add the cost of carbon to the price of electricity, which would jeopardize their competitiveness (Cartel, Boxenbaum, Aggeri & Caneill, 2017). Tensions between Eurelectric and these energy-intensive industries were growing so fast that Eurelectric "*feared that they would kill the process*" (Manager 1; 1, 2011). Given the success of GETS, the European Commission encouraged Eurelectric to initiate another experiment, this time involving companies from the energy-intensive sectors.

In the winter of 1999, Eurelectric formed a new team of managers to redesign the experimental space, the result of which came to be known as GETS 2. The managers engaged in both distancing and anchoring work to move from the previous learning configuration to a connecting configuration that would accelerate the adoption of the carbon market model across the field.

Connecting the experimental space to the field

The managers engaged in anchoring work to connect the experimental space as well as the GETS prototype carbon market to the European field of climate policy.

The new composition of the experimental space reflected the composition of the European field of climate policy. Eurelectric invited all major field actors to join the experimental space, either as participants, managers, or observers: the electricity sector, the energy-intensive industry, financial institutions, policymakers, non-governmental agencies and consulting companies. According to our informants, environmental NGOs were excluded from the experimental space because they had no formal role in the political procedure for developing a European directive. However, Eurelectric maintained dialogue with them based on the results of GETS. As for the energy-intensive industries, Eurelectric invited participants that the European Commission intended to integrate into its regulation project. Eurelectric also invited the European Commission's team in charge of writing the directive on carbon markets to act as observers and members of the GETS advisory board.

Bridging the design of the prototype with other field initiatives. The initial experiment had produced a prototype carbon market, to which the managers added certain features to connect it with existing initiatives. For instance, they added to their prototype a mechanism that was being developed in the United Kingdom named "gateway", even though the mechanism was technically complicated to implement.

> "*We knew that the implicit involvement of other actors through the gateway and other mechanisms would help us build a dialogue*." (Participant Elec 1, 2015)

The managers also adjusted the schedule of the experimental space to the European Commission's political agenda. The experiment's schedule closely followed that of the stakeholder consultation organized by the European Commission. Eurelectric's objective was to use this time alignment with the stakeholder consultation to contribute meaningfully to the policymaking process.

> "*The timing of GETS was good by the way because it very much went in parallel with our policy making process*." (European Commission 1, 2015)

Democratic Prototyping

Relations between participants from the electricity and energy-intensive sectors had been quite tense. To mitigate the tangible tensions that arose in the experimental space, the managers decided to invite all the participants to modify or confirm features of the initial prototype carbon market. The managers engaged in distancing work to devise rules and procedures that would enhance this democratic prototyping. For instance, they decided to accept as many proposals as possible to favor newcomer's feeling of inclusion.

> "*There was immense suspicion about what we [Eurelectric and the European Commission] were doing… Being a democratic outfit we decided we would involve the people in the design*." (Manager 1; 1, 2015)

They also appointed a neutral agent to coordinate the prototyping. The neutral agent set up a double blind procedure to ensure that participants did not transform prototyping into an ideological war. To make a formal proposal, a company would first send a letter to the neutral agent and carefully justified the proposal. The neutral agent would then examine the proposal and submit its response, not directly to the author of the proposal, but to all participants through a weekly newsletter.

> "*We chose a neutral agent to coordinate the operations and defuse the impression that our small group at Eurelectric was driving the whole operation to impose its ideas. Our goal was not to impose our ideas; our goal was to understand collectively so we could engage in a discussion with the regulator*." (Manager 1; 2, 2015)

This procedure limited knowledge of who was proposing what and focused attention on which measures were proposed, why, and why they were accepted or rejected. It encouraged participants to propose features independently of the strategy of their organization or sectoral position. For instance, one of the participants proposed to test an "auctioning" scenario, which meant that companies would have to pay for their initial carbon credit allocations. Such a proposal seemed at odds with the company's interests, which were to receive initial carbon credits for free. When we interviewed the proponent of auctioning, he explained that he had pushed for this option because he thought it would enhance the economic efficiency of the prototype.

Designing the experiment for policy-making

Eurelectric's objective with this second experiment was to bring relevant inputs to the policymaking process organized by the European Commission. It therefore engaged in anchoring work to ensure that the experiment's results could be used outside the experimental space.

First, the managers enhanced the experiment's realism compared to GETS 1. For instance, while electricity trading took place only on spot markets in the first experiment, the managers introduced future markets in the second one, thus allowing electricity companies to engage in business as usual, using hedging on financial markets. The effort to reproduce 'real world' conditions qualifies as anchoring work because it blurs the distinction between the inside and the outside of the experimental space. The managers' objective was to anticipate opponents' criticisms and prevent this demonstration from being declared irrelevant for political discussions.

Second, the managers built a readily implementable prototype. At this stage, several countries, such as Denmark and the United Kingdom, had been making different proposals (de Muizon & Glachant, 2004). Due to their excessive complexity, these designs were not getting much traction from policy makers at the European Commission as they involved "*a lot of paper work*" (European Commission 1, 2015). To augment the chances of their prototype spreading in the field, the managers designed a set of rules that was as lean as possible. However, this anchoring effort contradicted democratic prototyping which stated that all proposals should be accepted. The managers solved this dilemma by deciding that the only criterion for refusal would be excessive complexity. For instance, they decided to reject a proposal that all the managers considered to be highly relevant because it was too complex.

> "*The risk of adding [green certificates] was to miss our ultimate goal which is to demonstrate that if we give a price signal to industrial companies, we give them the possibility to invest*." (Manager 3; 1, 2015)

Through these efforts, the managers established the GETS prototype as more readily transposable than other available prototypes.

Objectifying the results

After completing the second experiment, all participants had experienced the fact that carbon markets were flexible instruments that could help to manage a carbon constraint within a company. This result, although very simple, was widely understood and shared among members of the experimental space. However, the managers also expressed concern that it might be more challenging than in the previous experiment to agree on how to frame the results of the second experiment, primarily because of the wide diversity of space members and their interests. Similarly to the first experiment, the managers appointed a neutral agent to handle the results and to draft a report.

Closing Configuration – 2000/2002: Anchoring work

In practice, the GETS experimental space closed in November 2000 with the release of the report on the second experiment, which synthetized the main conclusions of the two experiments. However, while GETS 2 had convinced participants, it soon triggered intra-sectoral dissension between actors that had participated and actors that had not. A particularly clear instance of dissension occurred in the cement industry. High-status actors in that industry who had participated in GETS took strong stands in favor of carbon markets in public meetings, asking "*Why are we waiting? Let's get on and do this!*" (Manager 1; 1, 2015). This proactive stance provoked a negative reaction among actors in the cement industry who had not participated in GETS, and resulted in their being asked by their professional association to publicly oppose carbon markets. This type of tension between participants and non-participants from the same industry prompted Eurelectric to shift to a fourth configuration, the closing configuration, in which they engaged in intense *anchoring work* to facilitate the prototype's widespread adoption in the field.

Designing a scientific experiment

To fully legitimize the prototype, the managers from Eurelectric engaged in intense anchoring work. They artificially extended the experimental space by hiring a consulting firm to perform a sensitivity analysis on the design of the GETS carbon market prototype. No field actors were invited and the consulting company carried out a sensitivity analysis in isolation, using a computer program. This sensitivity analysis resulted in two reports in March 2002 and the other in December 2002. The analysis tested several design variations of the carbon market prototype. This experimental episode was named GETS 3, signaling an extension of the GETS experimental space. The objective was to imbue the prototype with the virtue of science, rigor and objectivity. This effort represents anchoring work because it consisted in intentionally designing rules and procedures for the production of the prototype that would facilitate its wider adoption in the field. According to our respondents at the European Commission, the concrete nature of GETS 1&2, combined with the scientific polish of GETS 3, strengthened the legitimacy of the GETS prototype and favored its widespread adoption in the field.

> "*Without any doubt for me GETS strengthened the positions taken by Eurelectric in the consultative process that led to the [European carbon market] being created. Most people were just talking about their opinions and Eurelectric could talk about analysis and simulations and models and this is all the difference.*" (European Commission 1, 2015)

Replicating the experimental space in the field

During the first experiment, one of the managers became active in promoting the carbon market model outside the experimental space. With some colleagues in the British electricity sector and some government officials, he initiated an informal think tank on the carbon market model in the UK. The group grew bigger and progressively transformed into a formal discussion setting, involving industrial sectors and government officials. Known as the UK Emission Trading Group, it also crafted a prototype carbon market that became the subject of experimentation in the United Kingdom in 2001 (Smith & Swierzbinski, 2007). The managers of GETS maintained good relations with this group and even included one of their prototype features, the gateway, into their own prototype for testing purposes. Another manager from the International Energy Agency used the experience with GETS to spread the carbon market model to the Baltic Sea region, where they created another experimental space. Although they led to different prototypes, these GETS-inspired relays were important in promoting the carbon market model in the European field of climate policy.

PROCESS MODEL OF EXPERIMENTAL SPACES INITIATING INSTITUTIONAL INNOVATION

Which elements of the GETS case study explain the switch from contestation to endorsement of the carbon market model in the European field of climate regulation? The literature on spatiality suggests that the main mechanisms whereby field-spaces initiate institutional innovation is by organizing a feedback loop with other field spaces (Hardy & Maguire, 2010; Mair et al., 2012; Mair & Hehenberger, 2014). These loops usually occur between discreet spaces that favor the development of narratives on alternative models (Hardy & Maguire, 2010), along with practical discussions on the concrete instantiation of alternative models (Mair & Hehenberger, 2014), and highly visible spaces that initiate the diffusion of these alternative models among field actors. The GETS experimental space was also connected to other spaces.

However, our findings suggest that the core process whereby the GETS experimental spaces stimulated the creation of the EU-ETS pertains to its dynamic design. To explain the processes involved, we have derived from our findings a process model composed of four configurations of the experimental space. We propose that the temporal sequence of these configurations explains the transition from contestation to endorsement of alternative models, i.e., institutional innovation (see Figure 2).

Insert Figure 2 about here

First, experimental spaces open up as a result of boundary work (Zietsma & Lawrence, 2010). We refer to this first configuration as the *opening configuration*. Participants may meet several times – physically or online – to exchange views on the field's issue and to prepare for the experiment. This opening configuration may successfully emancipate participants from dominant field models when they experience low emotional attachment to these models, for instance peripheral actors or some actors in heterogeneous fields. However, the *opening configuration* is insufficient, we argue, when participants are deeply attached to the dominant field models. Such participants need exposure to the *learning configuration*.

A switch to the *learning configuration* requires distancing work to help participants emotionally emancipate from dominant models. First it protects individuals from social sanctions such as the expression of negative judgment by others (see Creed et al., 2014). Second, it protects them from their own allegiances (see Voronov & Vince, 2012) by temporarily inhibiting their emotional attachment to the institutional order. Intellectual stimulation during experiments leads participants to engage deeper with prototypes of the alternative model (see Csikszentmihalyi, 2014). When this emotional stimulation induces positive social emotions at the group level (see Fan & Zietsma, forthcoming), these emotions are more likely to solidify into institutional arrangements.

The *connecting configuration* serves to mitigate the distinction between the experimental space and the field. Designing the connecting configuration requires both anchoring work and distancing work. Again, emotional distancing is needed to help new participants let go of their institutional attachments. Anchoring work enhances the space's connection to key stakeholders, thereby extending the network of potential allies of the alternative model, known to facilitate institutional innovation (Battilana, Leca & Boxenbaum, 2009). Anchoring work also connects the prototype solution to the field by making it easily transferable. We suggest that this configuration of simultaneous distancing work and anchoring work stimulates diffusion of an alternative model in fields that are unconducive to institutional innovation.

The *closing configuration*, characterized by anchoring work, aims at imbuing the alternative model with field-wide legitimacy. The acquisition of legitimacy is critical for alternative models to get endorsed during institutionalization processes (Greenwood, Suddaby & Hinings, 2002; Suddaby & Greenwood, 2005), particularly at early stages when support in the field is scarce. The purpose of the closing configuration is to produce and disseminate evidence of the alternative model working as intended, ultimately convincing field members that it will meet its promises.

DISCUSSION

Designing Experimental Spaces as Institutional Work

Our study contributes first and foremost to the emerging literature on experimental spaces as a source of institutional innovation (Canales, 2016; Zietsma & Lawrence, 2010). Previous research suggests that actors can engage in institutional work to effectively stimulate institutional innovation (Lawrence & Suddaby, 2006; Lawrence et al., 2009). With regard to the design of experimental spaces, empirical studies have pointed to the notion of boundary work as a form of institutional work (Bucher & Langley, 2016; Canales, 2016; Zietsma & Lawrence, 2010). We introduce distancing work and anchoring work as important complements to boundary work. We argue that while boundary work may be sufficient to design experimental spaces that stimulate institutional innovation in fields that are already primed for institutional change (e.g., contested fields or emergent fields), both distancing work and anchoring work are needed to increase chances that the experimental space will have institutional effects when field conditions are unfavorable to alternative models.

Boundary work. Previous studies on spaces in general, and experimental spaces in particular, have shown that boundaries are essential to open up spaces where actors can let go of their social role and constructively discuss alternative models (Hardy & Maguire, 2010; Kellogg, 2009; Mair et al., 2012; Mair & Hehenberger, 2014). GETS also was established in isolation from the organizational field. The first experiment was performed discreetly: membership was closely controlled and anonymous. Meeting online on a web platform symbolically separated the space from members' organizations and daily activities. Indeed, boundary work proved essential for convincing participants to join the GETS experimental space. It has already been well identified in the institutional literature that field actors are unwilling to risk their reputation by engaging overtly in deviant models (Canales, 2016; Zietsma & Lawrence, 2010). Moreover, boundary work facilitates the construction of a climate of trust between the participants and the managers of the experimental space – a feature that later proved important to explain GETS' institutional effects.

Our findings suggest, however, that the creation of boundaries around the experimental space was insufficient to ensure that the actors would agree to participate in the GETS experimental activities. Boundaries might be sufficient to bring together opponents of the status quo (Hardy & Maguire, 2010), oppressed minorities that already share their mistrust in the existing order (Mair et al., 2012; Poletta, 1999), or companies that suffer economic and reputational harm by enforcing the status quo (Zietsma & Lawrence, 2010). However, the creation of boundaries proved insufficient in GETS to bring together central field actors that firmly contested the carbon market model.

Distancing work. We conceptualize *distancing work* as setting rules and procedures that mitigate participants' loyalty towards – and deep belief in – the status quo. We argue that to enhance chances that participants will engage with highly controversial models, they need protection not only from the field's scrutiny (Zietsma & Lawrence, 2010) but also from other members in the experimental space and most importantly from themselves. First, to protect participants from each other, the managers designed the experimental situation in a way that defused negative social judgments between participants. Under the protection of avatars and anonymity, participants were free of the social expectations that they believed others entertained with regard to their enacting an organizational mandate. Moreover, the managers removed contentious issues from the experimental space by significantly altering and constantly varying components that normally would produce conflict among actors, such as the price of carbon. They also invented a procedure to limit direct verbal interactions among participants during prototyping. Here, distancing work consisted in protecting participants from each other's' negative judgements (Creed et al., 2014) and emotional displays (Jarvis, 2017) that could harm their reputation once they returned to the field.

Second, the managers gamified the experiment, which considerably eased participants' mistrust of the carbon market model. They carefully designed game mechanics and dynamics (Robson, et al., 2015) to ensure that the game became emotionally engaging (Robson et al., 2015; Roth, Schneckenger & Tsai, 2015). Game mechanics refer to the technical components of a game, i.e., a well-defined context in which fictitious characters take up a challenge to attain a worthy objective (Robson et al., 2015). Here, the managers created such a fictitious setting, along with rules, avatars, challenges, and objectives. Game dynamics relate to the interaction patterns that unfold as players enact the game mechanics, such as collaboration, competition or cheating (*ibid*.). In GETS, the managers introduced challenges such as unexpected changes in prices, and they reduced the time that players had available to achieve their objectives. Such gamification features further enable distancing work in experimental spaces in as much as they contribute to neutralize participants' negative engagement with illegitimate models. They may also facilitate distancing work in commercial settings where alternative models could jeopardize the economic performance of established models.

Anchoring work. We conceptualize *anchoring work* as the design of rules and procedures that connect the experimental space as well as the solution developed inside it to the field. The notion of anchoring work advances existing research on how alternative models diffuse beyond the boundaries of the space in which they were created (Hardy & Maguire, 2010; Mair & Hehenberger, 2014). Previous studies have argued that boundary work serves not only to design but also to dissolve boundaries between groups of actors (Bucher & Langley, 2016; Gieryn, 1983). At the organizational level, Bucher and Langley (2016) argue that the dissolution of boundaries around an experimental space rests upon the collapse of the temporal boundary: when the experimentation is over, all the boundaries of the experiment dissolve, enabling wide diffusion of the alternative model.

Our findings refine this account for fields that are unconducive to institutional change. When the GETS temporal boundary faded, the experiment was indeed over. However the suspension of temporal boundaries would not have been sufficient to suspend the cognitive boundaries that prevented the innovation from spreading in the field. In fact, it seems that the suspension of the temporal boundary at the end of GETS 1 and the consequent dissolution of the experimental space almost led to the collapse of the carbon market model. Just when GETS 1 had succeeded in triggering a cognitive shift in favor of the carbon market model among electricity companies, the model faced even more intense defiance from non-space members. This episode illustrates that the temporal suspension of boundaries may reinforce opposition from non-members, creating sides and deadlocks that can lead to the potential exclusion of the alternative model. Anchoring work aims at defusing such situations by gradually dissolving boundaries and slowly legitimizing the alternative model beyond the experimental space.

We propose two dimensions of anchoring work. A first dimension consists in extending the boundaries of the experimental space to other relevant field actors to secure alliances (Battilana et al., 2009) and erase boundaries between members and non-members. The dissolution of boundaries has to be carefully managed through anchoring work if the alternative model is to spread successfully in a field that is disinclined toward institutional innovation. Otherwise, wider field members may reject the alternative model as illegitimate. A second dimension of anchoring work pertains to the legitimation of the alternative model beyond the boundaries of the space. Managers may design prototypes that are readily implementable (Hargadon & Douglas, 2001). Managers may also design the experiment in such a way that it produces a wide amount of evidence to legitimize this model (Nigam & Occasio, 2010; Tolbert & Zucker, 1996). Anchoring work, we argue, is essential when experimental spaces are located in fields that are unconducive to institutional change.

Configurations of institutional work. As a last point, we emphasize the importance of timing. In our case, each of the three types of institutional work was necessary to design an experimental space that could generate institutional innovation in a field that is unconducive to change. These three types of institutional work were collectively sufficient for the GETS experimental space to provoke institutional innovation as they were exercised in four consecutive configurations: opening, learning, connecting, and closing. Further empirical research is needed to determine whether these three forms of institutional work are always necessary and sufficient to initiate institutional innovation, and if the timing in which they are performed always reflects the four configurations that we identified.

The Role of Emotional Inhibitors in Institutional Processes

Our study also contributes to the emerging stream of research that acknowledges the role of emotions in institutional dynamics (Fan & Zietsma, forthcoming; Voronov & Vince, 2012). These scholars argue that one's allegiance toward highly institutionalized models, and conversely openness toward alternative action models, relates to an emotional experience of institutions. Emotions bond actors to institutionalized models through two main mechanisms: a social-emotional mechanism and an individual-emotional mechanism.

At the collective level, purposively shaming those that deviate from institutionalized models has been identified as a powerful social-emotional mechanism that suppresses alternative thinking (Creed et al., 2014). In GETS, distancing work helped limit such social sanctions by anonymizing the setting, limiting face-to-face interactions during key activities, and neutralizing conflict over sensitive issues such as the price of carbon when face-to-face meetings were unavoidable. We argue that, depending on the level of defiance of actors towards the alternative model, inhibiting negative social-emotional mechanisms will help actors engage with the alternative model. Gamifying the experiment is another factor that triggered the endorsement of the carbon market model. Participants had fun by playing against each other, which modified their usual patterns of interaction. This favorable emotional climate was key during the debriefing to foster open-mindedness toward the carbon market model and move from individual to shared understandings. Moreover, the excitement participants felt favored engagement toward a collective target: implementing carbon markets at the level of the European Union. We propose that the European carbon market instantiates the positive emotional energy that was liberated during the game. This result echoes Fan and Zietsma's (forthcoming) notion of emotional facilitators. Fan and Zietsma (*ibid*.) show that the collective experience of emotional energy such as excitement, enthusiasm and passion facilitates engagement towards the implementation of alternative models. We argue that emotional energy will be more likely to arise from a collective of actors in a situation where negative social emotions are being inhibited through distancing work.

At the individual level, emotions act as self-reinforcing feedback loops. For instance, enacting highly institutionalized action models in critical situations provokes the positive individual feeling of “doing the right thing” (Voronov & Vince, 2012). Our study shows that inhibiting emotional allegiance to the status quo at the individual level is of crucial importance for actors to experiment with alternative models. In GETS, participants were deeply concentrated and intellectually stimulated during the game. They also had fun, which combined into an emotional state of emergent intrinsic motivation. Participants later identified this emotional state as a key determinant of their commitment to experiment with the carbon market model. Such emergent intrinsic motivation has previously been identified in organizational analysis as enhancing creativity and performance (Csikszentmihalyi, 2014). The emotional dynamics in GETS were coherent with previous studies of innovation management showing that when participants engage in a highly stimulating intellectual experience, they are more inclined to temporarily bracket cherished patterns of reasoning and engage with innovation (Agogué, Levillain & Hooge, 2015). We argue that provoking such emergent intrinsic motivation inhibits field actors’ main reluctance to engage with alternative models and, in turn, encourage open-mindedness toward alternative models.

Limitations and Future Research

Like any empirical study, our research presents a number of limitations related to the research design. First, by focusing on the GETS experimental space, our research disregards the role of other actors and spaces. Other experiments run during the same time period (1998-2002) have also contributed to the adoption of the directive that established carbon markets in Europe (Wettestad, 2005; Callon, 2009). In this study, we considered only the indirect impact of these other experiments, i.e., their impact on GETS, leaving aside any direct impact they may have had on the institutional innovation of the EU-ETS. In making this choice, we relied on interviewees, including European Commission experts involved in the EU-ETS design and writing, who all expressed that the GETS experiment exerted a particularly strong role on the field's transition from opposition to the carbon market model to endorsement. Future research could expand the analytical angle to study interactions among different experimental spaces that push for competing prototypes. Similarly, future research could explore interactions between experimental spaces and other types of spaces involved in institutional innovation.

Second, since our research builds on a single case study, we cannot establish the relative importance of the three different forms of institutional work for processes of institutional innovation. Some of them may be unique to our case, or weigh differently in other instances of experimental spaces. Likewise, we cannot ascertain that the four consecutive configurations that we identified apply in the same way to other instances of experimental spaces that have been designed deliberately for the purpose of institutional innovation. We encourage future research to carry out other empirical studies to validate our findings, ideally adopting a comparative research design so as to refine our proposal.

CONCLUSION

The notion of experimental space reflects an emerging interest in the role of spaces in processes of institutionalization. In this study, we examined the design of experimental space as a deliberate act of institutional work. We illuminated key features in the design of experimental space that contribute to institutional innovation even when fields and space participants are disinclined toward institutional change. These features include two new forms of institutional work, distancing work and anchoring work, which complement boundary work in shedding light on how experimental space can be deliberately designed to stimulate institutional innovation, regardless of field conditions and of the initial convictions of experimental space participants.

We have examined a particularly successful instance of designing an experimental space for the purpose of institutional innovation. Not all experimental spaces succeed in generating the intended institutional effects. Given the strict governance rules that typically codify the intervention of stakeholders in policy process, collective experiments such as the GETS cannot be made public. Firms and policy makers could be accused of collusion, which may result in failure the of institutional innovation process. These dynamics complicate the empirical study of experimental spaces and discourage real-time inquiry into the deliberate use of spatiality to stimulate institutional innovation under unfavourable field conditions. However, they also underscore the creative potential of spaces.

Experimental spaces, we argue, afford a unique opportunity for embedded actors to contribute to institutional innovation. The practical experimentation that unfolds within experimental spaces stimulates an embodied emotional engagement that is key to institutional innovation and therefore deserves more attention in future research. Finally, our study suggests that gamification enables actors to engage creatively with illegitimate action models, even if they do not appeal to space participants or wider field members. As such, gamification constitutes an exciting new avenue for analyzing the role of spaces in institutional innovation, one that articulates with the emerging and highly relevant literature on the role of emotions in institutional dynamics.

NOTE

*Annex files may be downloaded separately on research gate

REFERENCES

Agogué, M., Levillain L. et Hooge S. 2015. Gamification of creativity: exploring the usefulness of serious games for ideation, ***Creativity and Innovation Management***, 24(3), 415-429.

Battilana, J., Leca, B., & Boxenbaum, E. 2009. How actors change institutions: Towards a theory of institutional entrepreneurship. ***Academy of Management Annals***, 3(1): 65-107.

Braun, M. 2009. The evolution of emissions trading in the European Union: the role of policy networks, knowledge and policy entrepreneurs. ***Accounting, Organizations and Society***, 34(3-4): 469–487.

Bucher, S., & Langley, A.2016. The Interplay of Reflective and Experimental Spaces in Interrupting and Reorienting Routine Dynamics. ***Organization Science,*** 27(3):594-613.

Bucher, S., Chreim, S., Langley, A., & Reay, T. 2016. Contestation about Collaboration: Discursive Boundary Work among Professions. ***Organization Studies***, 37(4) 497–522.

Callon, M. 2009. Civilizing markets: Carbon trading between in vitro and in vivo experiments. *Accounting, Organizations and Society*, 34(3-4) 535-548.

Canales, R. 2016. From Ideals to Institutions: Institutional Entrepreneurship and the Growth of Mexican Small Business Finance. ***Organization Science***, 27(6):1548-1573.

Cartel, M., Boxenbaum, E., Aggeri, F., & Caneill, J-Y. 2017. Policymaking as collective bricolage: the role of the electricity sector in the making of the European carbon market. In Garsten, Christina and Adrienne Sörbom, eds. ***Power, Policy and Profit: Corporate Engagement in Politics and Government***, Edward Elgar Publishing: Cheltenham, UK.

Cass, L. 2005. Norm entrapment and preference change: The evolution of the European Union position on international emissions trading. *Global Environmental* ***Politics***, 5(2): 38-60. The MIT Press.

Christiansen, A.C., & Wettestad, J. 2003. The EU as a frontrunner on greenhouse gas emissions trading: how did it happen and will the EU succeed? ***Climate Policy***, 3 (1): 3-18.

Corbin, J., & Strauss, A. 2008. ***Basics of qualitative research: techniques and procedures for developing grounded theory***. 3rd ed. Sage: Newbury Park.

Cornut, P. 2000. La phase pilote de mise en œuvre conjointe: premiers bilans. ***Étude réalisée dans la cadre de la subvention n° 98 141 du Ministère de l'Aménagement du Territoire et de l'Environnement.*** IEPE.

Creed, D., Hudson, B., Okhuysen, G., & Smith-Crowe, K. 2014. Swimming in a sea of shame: Incorporating emotion into explanations of institutional reproduction and change. ***Academy of Management Review***, 39(3): 275-301.

Csikszentmihalyi, M. 2014. ***Flow and the foundation of positive psychology. The collected works of Mihaly Csikszentmihalyi***. Claremont CA : Springer. Dansou, K., & Langley, A. 2012. Institutional Work and the Notion of Test. ***M@n@gement***, *15*(5): 502-527.

Damro, C. & Mendes, P. 2003. Emissions trading at Kyoto: from EU resistance to Union innovation. ***Environmental Politics***, 12(2): 71-94.

Dansou, K., & Langley, A. 2012. Institutional Work and the Notion of Test. ***M@n@gement***, 15(5): 502-527.

Delbeke, J., & Vis, P. 2015. ***EU Climate Policy Explained***. NY: Routledge.

de Muizon, G., & Glachant, M. 2004. The UK Climate Change Levy Agreements: Combining negotiated agreements with tax and emission trading. In A. Baranzini & P. Thalmann (eds.), ***Voluntary Agreements in Climate Policies: An Assessment***. Ashgate – London: Edward Elgar.

DiMaggio, P., & Powell, W.W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. ***American Sociological Review***, *48*, 147–160.

Ellerman, D., Convery, F. & de Perthuis, C. 2010. ***Pricing carbon: The European union emissions trading scheme***. Cambridge, R.U.: Cambridge University Press.

Fan, G., & Zietsma, C. forthcoming. Constructing a shared governance logic: The role of emotions in enabling dually embedded agency. ***Academy of management Journal***, Published online before print November 7, 2016, doi:10.5465/amj.2015.0402.

Furnari, S. 2014. Interstitial spaces: microinteraction settings and the genesis of new practices between institutional fields. ***Academy of Management Review***, 39(4): 439–462.

Gieryn, T. 1983. Boundary-work and the demarcation of science from non-science: Strains and interests in professional ideologies of scientists. ***American Sociological Review***, 48: 781–795.

Gioia, D., Corley, K.G. & Hamilton, A.L. 2012. Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. ***Organizational Research Methods***, 00(0):1-17.

Greenwood, R., Suddaby, R., & Hinings, C.R. 2002. Theorizing change: The role of professional associations in the transformation of institutionalized fields. ***Academy of Management Journal***, *45*(1), 58–80.

Hardy, C., & Maguire, S. 2010. Discourse, field-configuring events, and change in organizations and institutional fields: Narratives of DDT and the Stockholm convention. ***Academy of Management Journal***, 53(6): 1365-1392.

Hargadon, A.B., & Douglas, Y. 2001. When innovations meet institutions: Edison and the design of the electric light. ***Administrative Science Quarterly***, 46 : 476-501.

Helfen, M. 2015. Institutionalizing Precariousness? The Politics of Boundary Work in Legalizing Agency Work in Germany, 1949–2004. ***Organization Studies,*** 36(10): 1387–1422.

Jarvis, L. 2017. Felt versus feigned: Feigning Behaviors and the Dynamics of Institutional Logics. ***Academy of Management Review*** 42(2): 306-333.

Kellogg, K. C. 2009. Operating room: Relational spaces and microinstitutional change in surgery. ***American Journal of Sociology***, 11(3): 657-711.

Lamont, M., & Molnár, V. 2002. The study of boundaries in the social sciences. ***Annual Review of Sociology***, 28: 167–195.

Langley, A. 1999. Strategies for theorizing from process data. ***Academy of Management Review***, 24(4): 691–710.

Langley, A., Smallman, C., Tsoukas, H., & Van de Ven, A. Process studies of change in organizations and management: Unveiling temporality, activity and flow. ***Academy of Management Journal,*** 56(1): 1-13.

Lawrence, T.B., & Suddaby, R. 2006. Institutions and institutional work. In S. R. Clegg, C. Hardy, T.B. Lawrence, & W. R. Nord (Eds.), ***The SAGE Handbook of Organization Studies***: 215-254. Thousand Oaks, CA: Sage Publications.

Lawrence, T.B., Suddaby, R., & Leca, B. 2009. ***Institutional Work: Actors and Agency in Institutional Studies of Organizations*****.** Cambridge, MA: Cambridge University Press.

Lawrence, T.B., Suddaby, R., & Leca, B. 2011. Institutional work: Refocusing institutional studies of organization. ***Journal of Management Inquiry,*** 20 (1): 52-58.

Lawrence, T.B., Leca, B., & Zilber, T. 2013. Institutional work: Current research, new directions and overlooked issues. ***Organization Studies,*** 34 (8): 1023-1033.

Lohmann, L. 2006. ***Carbon Trading: A Critical Conversation on Climate Change, Privatisation and Power*****.** Udevalla: Dag Hammarskjöld Foundation. Development dialogue n°48.

Maguire, S., & Hardy, C. 2013. Organizing processes and the construction of risk: A discursive approach. ***Academy of Management Journal***, 56(1): 231–255.

Mair, J., & Hehenberger, L. 2015. Backstage and frontstage convening: The transformation from opposition to mutualistic coexistence in organizational philanthropy. ***Academy of Management Journal***, 57(4): 1174–1200.

Mair, J., Marti, I., & Ventresca, M.J. 2012. Building Inclusive Markets in Rural Bangladesh:How Intermediaries Work Institutional Voids. ***Academy of Management Journal***, 55(4): 819-850.

Moura-Costa, P. 1996. Tropical forestry practices for carbon sequestration. In A. Schulte & D. Schöne (Eds.), *Dipterocarp Forest Ecosystems: Towards Sustainable Management*. Singapore: World Scientific.

Muniesa, F. 2003. ***Des marches comme algorithmes : Sociologie de la cotation électronique à la bourse de Paris***. Ecole Nationale Supérieure des Mines de Paris.

Muniesa, F., & Callon, M. 2007. Economic experiments and the construction of markets. In D. MacKenzie , F. Muniesa, and L. Siu (Eds.), ***Do economists make markets ? On the performativity of economics*** : 163-189. UK: Princeton University Press

Newell, P., & Paterson, M. 1998. A climate for business: global warming, the state and capital. ***Review of International Political Economy***, 5(4): 679-703.

Nigam, A., & Occasio, W. 2010. Event Attention, Environmental Sensemaking, and Change in Institutional Logics: An Inductive Analysis of the Effects of Public Attention to Clinton's Health Care Reform Initiative. ***Organization Science***, 21(4): 823-841.

Polletta, F. 1999. Free spaces in collective action. ***Theory and Society***, 28: 1-38.

Polletta, F., & Jasper, J. M. 2001. Collective identity and social movements. ***Annual Review of Sociology***, 27: 283-305.

Robson, K., Plangger, K., Kietzmann, J. H., McCarthy, I., & Pitt, L. 2015. Is it all a game? Understanding the principles of gamification. ***Business Horizons***, *58*(4), 411-420.

Roth, S., Schneckenberg, D. & Tsai, C.-W. 2015. The Ludic Drive as Innovation Driver: Introduction to the Gamification of Innovation. ***Creativity and Innovation Management***, 24(2), 300-306.

Schatzki, T.R. 2001. Introduction: Practice theory. In T.R. Schatzki, K. Knorr-Cetina, & E.V. Savigny (Eds.), ***The practice turn in contemporary theory:*** 1–14. London: Routledge.

Scott, W.R. 2001. ***Institutions and Organizations*** *(Foundations for Organizational Science Series)*. 2ème éd. CA: Thousand Oaks.

Slager, R., Gond, J-P., & Moon, J. 2012. Standardization as Institutional Work: The Regulatory Power of a Responsible Investment Standard. ***Organization Studies***, 33(5-6): 763–790.

Smith, S., & Swierzbinski, J. 2007. Assessing the performance of the UK Emissions Trading Scheme, ***Journal of Environment Resource Economics***, 37:131-158

Stjerne, I.S., & Svejenova, S. 2016. Connecting Temporary and Permanent Organizing: Tensions and Boundary Work in Sequential Film Projects. ***Organization Studies***, 37(12): 1771–1792.

Strauss, A., & Corbin, J. 1998. ***Basics of Qualitative Research: Grounded Theory Procedures and Techniques***. Newbury Park, CA: Sage.

Suddaby, R., & Greenwood, R. 2005. Rhetorical strategies of legitimacy. ***Administrative Science Quarterly***, 50 (1): 35–67.

Tolbert, P.S., & Zucker, L.G. 1996. The institutionalization of institutional theory. In S. Clegg, C. Hardy, & W. R. Nord. (Eds.), ***The SAGE Handbook of Organization Studies:*** 175-190. Thousand Oaks, CA: Sage Publications.

Victor, D., & House, J.C. 2006. BP’s emissions trading system. ***Energy Policy***, 34: 2100-2112.

Voronov, M., & Vince, R. 2012. Integrating emotions into the analysis of institutional work. ***Academy of Management Review***, 37: 58-81.

Wettestad, J. 2005. The making of the 2003 EU emissions trading directive: an ultra-quick process due to entrepreneurial proficiency? ***Global Environmental Politics***, 5(1): 1-23.

Wittman, H. K., & Caron, C. 2009. Carbon offsets and inequality: social costs and co-benefits in Guatemala and Sri Lanka. ***Society and Natural Resources,*** 22 (8): 710-726.

Wright, A., & Zammuto, R. 2013. Wielding the willow: processes of institutional change in English county cricket. ***Academy of Management Journal***, 56(1) : 308–330.

Zietsma, C., & Lawrence T. 2010. Institutional work in the transformation of an organizational field: The interplay of boundary work and practice work. ***Administrative Science Quarterly***, 55: 189–221.

Zietsma, C. & McKnight B. 2009. Building the iron cage: institutional creation work in the context of. In T. Lawrence, R. Suddaby, and B. Leca (Eds.), ***Institutional Work: Actors and Agency in Institutional Studies of Organizations*** (pp.143-175). Cambridge, RU: Cambridge University Press.

TABLES AND FIGURES

FIGURE 1
Static Data Structure

First-Order Categories	*Second-Order Themes*	*Aggregate dimensions*
* **Invitation** of electricity utilities * **Discretion** to encourage wide participation	**Setting a social boundary**	***Boundary Work***
* **Gamification** to convince participants * **Inclusion** of external actors to set up the game	**Setting a symbolic boundary**	***Boundary Work***
* Fictitious conditions, to **neutralize patterns of disputes** like debates on the price of carbon * Anonymity to **prevent self-censorship**	**Facilitating open-mindedness**	***Distancing work***
* **Tight schedule** * References to the **emotional stimulation** of the game	**Engaging participants emotionally**	***Distancing work***
* Results **discussed collectively** in meetings * Need of an **objective voice** * Use of a **neutral agent** to craft the report	**Objectifying the results**	***Distancing work***
* Invite participants to **collaborate** * **Double blind procedure** for prototyping * **Neutral agent** to supervise the prototyping	**Democratic prototyping**	***Distancing work***
* **Composition** reflects the field * Including features to the prototype to **build a bridge** with other field initiatives * **Adjusting schedule** to the EC's agenda	**Connecting the space to the field**	***Anchoring Work***
* Enhanced **realism** compared to GETS1 * Building a **readily implementable** prototype	**Designing the experiment for policy-making**	***Anchoring Work***
* GETS3 to **scientifically** assess the model * Sensitivity Analysis	**Designing a scientific experiment**	***Anchoring Work***
* Experiment with the UK-ETS * Experiment in the Baltic Sea Region	**Replicating the Space**	***Anchoring Work***

FIGURE 2
Process Model of Pre-Institutionalization: Designing Successful Prototypes