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## Working Paper Proceedings

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**Engineering Project Organizations Conference**

Rheden, The Netherlands

July 10-12, 2012

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# **The Search for Consensus in Sustainable Architectural Design-Giving Rise to New Forms of Institutional Work**

**Sonja Oliveira**

### **Proceedings Editors**

**Amy Javernick-Will, University of Colorado and Ashwin Mahalingam, IIT-Madras**



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# **The search for consensus in sustainable architectural design giving rise to new forms of institutional work**

**Sonja Oliveira<sup>1</sup>**

Recent research in sustainable architectural design has led to articulations of a populist thinking of sustainable architecture as one of low carbon and energy efficient building. What has been overlooked is a sense of how this thinking evolved over time and what actions led to certain criteria such as carbon and energy efficiency becoming dominant. This research addresses this gap with a particular emphasis on institutional analysis as it considers the forms of institutional work that facilitated the rise of dominant criteria in professional associations. Evaluation criteria used to assess and promote sustainable architectural design by the professional architectural association in the UK are examined over time. The research suggests that certain actors and their actions enable new forms of institutional work through two types of endorsement activities. It shows the importance of considering new ways to theorize issues of sustainable design as new meanings are negotiated in these complex institutionalized settings.

Keywords: sustainable architectural design, institutional work, evaluation criteria, endorsement, actors

## **INTRODUCTION**

The search for consensus on issues of sustainable architectural design has been argued by some scholars to be ill-conceived and misinformed (Guy and Moore 2004), by others as an important one (Curwell and Cooper 1998). A number of scholars have outlined barriers to achieving consensus resulting from the diversity of approach on how sustainable architecture is defined, practiced and evaluated (Curwell and Cooper 1998). A body of academic work takes on a sociological view and argues that the diversity of approach such as ecotech (Slessor 2001), ecological (Papanek 1995), biomimetic (Godfaurd et al. 2005) and regenerative (Cole 2011) should be embraced and that the largely quantitative approaches to evaluating sustainable design as well as the search for consensus are misguided (Guy and Farmer 2001; Guy and Moore 2004). This search for consensus is described by some as resulting in a populist view of sustainable architecture as one of low-carbon and energy efficient building (Guy and Moore 2004). The dominance of carbon reduction measures and efficiency performance criteria is present in environmental impact assessments such as BREEAM<sup>2</sup>, governmental reports (Government 2010) and professional association design guidance (RIBA 2011).

The majority of this academic literature has focused on evaluation criteria employed by planning and regulatory agencies and specifically criteria used in environmental impact assessment models. It is suggested that the criteria used in these models employ too narrow a focus missing some key parameters when viewed from the broader perspective of sustainable development (Curwell and Cooper 1998). This body of research has not considered how this criteria evolved over time in these and other institutionalized settings such as those used by professional associations which can have a powerful influence on the institutional structure of

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<sup>1</sup> PhD Student, Design Innovation Research Centre, University of Reading, Whiteknights, Reading, RG6 6AW, S.Dragojlovic-Oliveira@pgr.reading.ac.uk

<sup>2</sup> Building Research Establishment Environmental Impact Assessment

a field (Greenwood et al. 2002). What criteria are used to evaluate, define and promote sustainable design in these settings and how do dominant criteria emerge and evolve over time?

These questions are addressed through a historical study (1990-2010) using archival research methods (Ventresca and Mohr 2002). Published building studies, reviews and discussions on buildings awarded by professional association such as the RIBA<sup>3</sup> in the UK as beacons of sustainable design are examined over time. Evaluation criteria used to define, promote and assess sustainability within these building studies, reviews and critique are analysed in the relevant time period. Evaluation is defined as a technical-scientific procedure for expressing a judgement based on values about the impacts of a policy or actions that have a physical or social impact on the environment (Brandon and Lombardi 2005). Before considering the observations of this study, the conceptual background to the research is briefly described in the next section; followed by the methodology for the data collection and analysis. In describing findings, the use of institutional work forms is outlined by analysing the activities which enable changes in criteria and the rise of a dominant criterion. The conclusion discusses the implications of this work for organization theory as well as for issues of sustainability in project based organizations.

## **BACKGROUND**

There is considerable work in the sociological approaches to developing sustainable architecture that suggest an examination of connections between the “truth claims” (Guy and Moore 2004 :7) as promoted by the diverse participants will help improve our understanding of how sustainable architecture is evaluated, defined and approached. The “truth claims” in this case are embedded in criteria used by a diverse set of participants to evaluate the sustainability of an architectural design. Guy and Moore (2004) trace the development of sustainability criteria to the Brundtland definition of sustainability (Development 1987) as being of a global scale and informed by physical terms such as ozone layer depletion and greenhouse gas emissions. They argue that this and subsequent definitions in world conferences in Rio in 1992 (United 1992) and Kyoto in 1997 (United 1997) have provided the criteria for evaluating sustainable architecture as one focused on “resource efficiency” and “low energy” (Edwards and Hyett 2001).

This paper responds to this call of research by considering how changes in criteria used by actors associated with the architectural professional association are shaped by forms of institutional work enabling the wider institutionalization of sustainable architecture. The literature focusing on sociological investigations of approaches to sustainable architecture argue that the search for consensus has facilitated the dominance of issues such as carbon, energy and efficiency enabling new meanings, actions and actors to take centre stage (Guy and Moore 2004). Institutional theory provides an approach to understanding how consensus is built around new meanings and how concepts and practices on issues of sustainability are developed and diffused (Jennings and Zandbergen 1995). Institutional theory is concerned with the processes by which items become institutionalized and the role of institutions in society (Scott 2001) and is useful for describing how organization activities may, over time, come to contribute to sustainability (Jennings and Zandbergen 1995).

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<sup>3</sup> Royal Institute of British Architects

Institutionalization is a recursive process (Powell and DiMaggio 1991) made up of multiple phases that include the emergence of a marginal activity, political processes that may involve resistance, technological innovations or new conceptualizations of existing practices (Lounsbury and Crumley 2007). These key constructs of “institutionalization” have not been sufficiently specified in much of the contemporary organization theory (Hoffman and Ventresca 2002). This paper seeks to explore forms of institutional work that induce forms of change (Lawrence et al. 2009) within on-going processes of institutionalization. It argues that by employing institutional theory as a framework of analysis a better understanding can be provided of how these forms of institutional work are situated within an institutionalization process and how dominant criterions emerge, diffuse and become embedded in practice and policy. Understanding how a dominant criterion emerges is important as it can have a wider impact on the development of an industry’s institutionalized structures by showing how new roles emerge and in some cases how new art forms take shape (Wijnberg and Gemser 2000).

## **METHOD**

The starting point for the research was an interest in exploring the way evaluation criteria used to assess, define and promote sustainable architectural design evolves over time in professional association settings. Researchers have begun to explore ways to directly examine changes in meaning and the transformation of organizational practices and identities measured through archival methods (Colyvas and Powell 2006; Jarzabkowski et al. 2009; Lounsbury et al. 2002; Lounsbury et al. 2003; Zietsma and McKnight 2009). Ventresca and Mohr (2002) characterise archival methods as formal methods that treat archives as data to be collected, analysed and measured directly.

The mid 1990’s have been identified in the literature review as a defining period for the development of concepts relating to evaluation criteria used to define sustainable architectural design. The first part of the study analyses published building studies, critique and discourses on buildings awarded by the RIBA as beacons of sustainable design in the relevant time frame in the UK. Professional journals provide a medium for discourse, space for showcasing latest approaches and precedents (Jones et al. 2011). It is supported by secondary historical data such as editorial commentaries on specific building studies, industry press, design guidance and other promotional materials.

Having identified themes in the journal “Architects Journal” within 60 articles (out of 160) that embody evaluation criteria within specific time frames the second part of the study examines factors that contribute to changes in evaluation criteria and the emergence of a dominant criterion. Its aim is to understand how the criteria evolved in this institutionalized setting and how dominant criterions emerge; what connections may have taken shape and what impact this had on the makeup of the criteria over time.

## **PRELIMINARY FINDINGS**

### **Evaluation criteria**

The evaluation criteria used to define, promote and assess a cultural or design product are difficult to ascertain as standards are less clear, difficult to measure and not always immediately obvious (Wijnberg and Gemser 2000). Professional associations such as the RIBA use design award schemes as a standard for assessing quality in architecture (Gann and

Whyte 2003). Research carried out on development of DQI's (Gann et al. 2003) found that RIBA awards focus on the traditional Vitruvian values of commodity, firmness and delight. Using NVivo 9, a number of thematic categories (Quinn Trank and Washington 2009) associated with evaluation criteria used to define and promote sustainable architecture are described over time. These are outlined in Table 1.

Time frame	Theme	Typical indicators from journal articles
1990-2000	unobtrusive	<i>touching the ground lightly- this has become almost a catchphrase of the project</i>
	eco-friendly	<i>Bennetts Associates delivered an unobtrusive, eco-friendly solution</i>  <i>It is crammed full of environmentally-friendly features and, claims the architect, exemplifies leading-edge green thinking.</i>
	setting new standards	<i>This project sets new standards for energy-efficient office construction and operation.</i>  <i>Bennetts Associates' new ultra-green Wessex Water Operations Centre in Bath as an exemplar of sustainable office development</i>
	centre of agenda	<i>Speaker after speaker put sustainability at the centre of their agenda for the twenty-first century city.</i>  <i>Sustainability is the order of the day; after all, nobody would want to be labelled 'unsustainable'</i>
2000-2010	measuring	<i>These units, such as kgCO2/m2/year, must become common currency in our understanding and judgement of buildings.</i>  <i>The new Innovate Green Office achieved the highest BREEAM score ever awarded, at 87.55 per cent – a testimony to this building's 'green' credentials.</i>  <i>Though all these standards, measures and specifications can sound tedious, they amount to one of the most dynamic aspects of the whole sustainable construction agenda.</i>
	carbon	<i>The year 2007 is year zero – the year the UK committed to delivering zero-carbon</i>  <i>The question we must ask is no longer 'Is it cost-efficient?', but rather 'Is it carbon-critical?' This</i>

		<i>is carbon-critical design.</i>
	warning	<p><i>The head of the UK Green Building Council (UK-GBC) has warned that architects could be ‘facing extinction’ unless dramatic changes are made in the industry to combat climate change.</i></p> <p><i>Alan Shingler, partner and head of sustainability at Sheppard Robson, agrees in part with King, adding architects are ‘in danger’ of losing a foothold in what is ‘an exceptionally important topic’</i></p>
	responsibility	<p><i>There is a threat that more responsibility is being taken away from architects. We’re in danger of losing critical skills needed to really understand climate change.’</i></p> <p><i>Architects cannot leave this task to others. It’s too easy to say ‘I’ll call my service engineer’</i></p>

Table 1. Major themes in articles analysed in period 1990-2010

### Phase 1990-2000

Perhaps the most visible theme in the material during this period is the notion of sustainable design being “unobtrusive” and “friendly“. The emphasis on words “touching the ground lightly”, “unobtrusive”, “eco-friendly” and “environmentally friendly” appear to position the evaluation systems as socially and ethically constructed. The rhetoric of this period is rooted in political statements such as those by the government:

“We must protect the whole earth, and do so by pioneering new ways of building, working, and living”<sup>4</sup>

The end of the century signifies the completion of two exemplar sustainable buildings awarded by the RIBA: the BedZed housing project and Wessex Water Operations Offices. These projects pave the way for the use of measurable indicators, BREEAM ratings and performance criteria and mark the start of a period focused on measuring and calculating carbon.

“It attained the highest ever BREEAM 'Excellent' rating (79) in the commercial offices sector and 10 out of 10 in an environmental performance index”<sup>5</sup>

### Phase 2000-2010

The turn of the century marks the start of “calculating carbon” and “measuring efficiency”. The rhetoric of the period is rooted in “warnings”<sup>6</sup>; calls for change in practice and acknowledgement that architects should be at the” forefront of this campaign, demanding

<sup>4</sup> *Architects Journal*, October 26, 2000

<sup>5</sup> *Architects Journal*, October 19, 2000

<sup>6</sup> *Architects Journal*, August 29, 2002

that they consider energy efficiency at all steps of the design process”<sup>7</sup>. Criticisms of the RIBA Stirling Prize for awarding buildings whose designs “go against the principles of sustainability” begin to question how sustainability is judged in high quality architecture. Energy efficiency is highlighted as an important issue by industry experts following the publishing of the Energy White Paper in 2003.

## **Endorsement**

The start of the century witnessed the development of criteria enveloped in issues of carbon, efficiency and energy. Considerable efforts are expended by multiple actors linked to activities promoted by the RIBA in endorsing the new criteria for achieving sustainable design. These endorsement activities are conceptualised as “constructing and “reinforcing” (Zietsma and McKnight 2009) the cognitive, normative and regulative institutional pillars (Scott, 2001) of the structure of a field. However, unlike previous research which describes institutional approval and promotion work as one which is built on institutional “detritus” (Zietsma and McKnight 2009); endorsement as a form of institutional work draws from reciprocal support, promotion and commendation amongst influential and powerful actors in the field.

Endorsement by social actors has been termed as a form of legitimacy (Deephouse 1996). Legitimacy has been defined as a “generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate, within some socially constructed system of norms, values, beliefs, and definitions” (Suchman 1995 :574). This definition sees legitimacy as a source of action as well as the product of it. Deephouse (1996) argues that only certain actors can confer legitimacy and a key step in defining legitimacy is identifying relevant social actors. Deephouse (1996) draws on two types of social actors who engage in endorsement activities: regulatory and public. Legitimacy is evaluated along three basic institutional components -the normative, the regulative, and the cognitive and is subject to three types of control mechanisms-normative, coercive, and mimetic (DiMaggio and Powell 1983).

Legitimacy is granted through a process of social endorsement (Sine, David & Mitsunashi); however, preliminary findings in this study suggest that forms of inclusive and exclusive endorsement pursued by actors who may fulfil both regulatory and public roles can have a profound effect on the legitimation of a new meaning system, belief and set of values. The two types of endorsement display overlapping instances of institutional creation, disruption and maintenance work, however, what has been difficult to identify is where one form begins and another ends.

## **Inclusive endorsement**

Inclusive endorsement addresses the architectural community as a whole. Actors associated with the RIBA endorse carbon and energy as ways to achieve sustainability and call upon the community to address these issues for the sake of the profession. This type of endorsement is marked by a sense of urgency; there are warnings and sanctions that the community will face should these issues not be addressed. The RIBA sets the normative context by endorsing support from the government, promoting standards and design guidance for the architectural community in their pursuit of sustainable design.

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<sup>7</sup> *Architects Journal*, February 27, 2003

“The government's pledge to provide £3 million last week for the construction of energy-efficient buildings using solar power was welcomed by Peter Smith, RIBA vice-president for sustainable energy, as an effective tool in helping the UK meet its Kyoto commitment to reduce carbon dioxide levels”.<sup>8</sup>

There is rhetoric of a demand for increased responsibility, warning the architectural community of dire consequences if guidance isn't followed. The RIBA use their coercive forces to endorse support from the architectural community and the government. Members are coerced into obtaining CPD points that relate to sustainable design and are warned that sanctions may be faced if designs don't meet the necessary criteria.

“The profession must rise to the challenge of climate change and alter its building practices to meet the needs of the future or face charges of liability in years to come, the RIBA has warned.”<sup>9</sup>

Even in cases where the community is not initially coerced into adopting a particular set of criteria, once they endorse a set of standards or practice they submit into the coercive pressures embedded in the standards (Prakash and Potoski 2006). In this case the RIBA changed its criteria to award an exemplar project and thereby endorsed its design as a way of achieving sustainable architecture and promoted its ideas across the architectural community.

“The judges were also impressed by BedZED's long-term goal, which is to see our urban habitat transformed to carbon-neutral mixed-use development by the end of the century. This year the RIBA Journal Sustainability Award jury was looking for buildings that pushed the sustainable agenda through a step change and took a more radical approach.”<sup>10</sup>

Awarded buildings and their exemplary features are used as a form of inclusive endorsement to create a new criterion, justify its implementation and encourage its use across the field.

### **Exclusive endorsement**

Exclusive endorsement addresses specific actors in the field and does not necessarily address the rest of the architectural community. This type of endorsement draws on influential actors in the field building on their social status, reputation and power. Specific appointments are endorsed to ensure the sustainability agenda is achieved.

“In this capacity, and as head of the Low Carbon Construction Review, Morrell has the intelligence, experience and determination to cut through the cynical posturing and bloody-minded procrastination that has so impeded progress on the sustainability agenda.”<sup>11</sup>

Battilana, Leca and Boxenbaum (2009) highlight the importance of social position and formal authority as a way to forge links and strengthen ties with those who support divergent forms of change. Battilana and D'Aunno (2009) argue that two types of enabling conditions (organizational and field) have received sufficient attention; however, the individual enabling conditions have been overlooked. The types of entrepreneurial actions are influenced not only by the status of the organization in which an individual actor is embedded but their hierarchical position within an organization (Battilana and D'Aunno 2009).

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<sup>8</sup> *Architects Journal*, August 29, 2002

<sup>9</sup> *Architects Journal*, August 29, 2002

<sup>10</sup> *Architects Journal*, November 27, 2003

<sup>11</sup> *Architects Journal*, February 11, 2010



This type of endorsement is marked by a rhetoric of encouragement, support and confidence and is carried out by those linked to influential, high status positions and organizations such as the professional association RIBA.

“President-elect George Ferguson and vice president for sustainable development Peter Smith supported Hyett in his rallying call.”<sup>12</sup>

This is in sharp contrast to the inclusive type of endorsement which addresses the community with warnings and sanctions. Both types of endorsement occur at a time when there is a greater effort to measure and calculate a building’s performance. A number of studies that examine changes in category meaning and the rise of new criteria (Khaire and Wadhvani 2010; Zhao 2005) suggest that actors interpret opportunities created by broader shifts in discourses and make links between new category meanings to those shifts. What is overlooked is the actions which enable these links to take place; tentative findings in this study suggest endorsement may play a greater part in shaping links to broader shifts enabling new meanings to be accepted, legitimised and embedded.

## **DISCUSSION AND IMPLICATIONS**

This study suggests that although the search for consensus on how sustainable architecture is defined, evaluated and assessed may have contributed towards the dominance of certain criteria, the findings suggest that endorsement as a form of institutional work would have facilitated their expansion. These types of endorsement (inclusive and exclusive) facilitate forms of institutional work associated with the emergence and evolution of a new set of criteria used to evaluate sustainable architectural design. Preliminary findings indicate that institutional work does not necessarily build from institutional detritus but is driven by diverse interests of multiple actors in a contested institutional context. The mechanism of “endorsement” involving “political actions among distributed, partisan and embedded actors” (Zietsma and McKnight 2009 :167) enables forms of creation, maintenance and disruption work to take place. The early findings suggest that different types of endorsement may be linked to different forms of institutional work, however, further research is required to understand how actors associated with professional associations project their identity and interests to others and to the processes used in negotiation with them (Greenwood et al. 2002)

Previous research on institutional creation work suggests that institutional entrepreneurs pursue singular visions in developing specific projects (DiMaggio 1988) and that specific actors and their agency enable certain forms of institutional work (Battilana and D’Aunno 2009). Zietsma and McKnight (2009) draw attention to a collective type of action in competitive and highly contested environment where institutional creation work “comes with a price” involving adaptation, protection of interests and privileging supporters. In processes of endorsement actors with different agendas are not found to be working collectively but by reciprocal use of inclusive and exclusive endorsement develop a common understanding of a meaning system characteristic of established organizational fields (Zietsma and McKnight 2009) thereby reinforcing the “iron cage”.

The bits of detritus which are found to be used by institutional entrepreneurs as enabling conditions in previous studies (Zietsma and McKnight 2009) for new innovations or technologies are not found to be detrimental to the building of a new criterion. Instead the

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<sup>12</sup> *Architects Journal*, August 29, 2002

debris becomes a background against which to set new meanings, replace and recycle old ones and introduce new scripts, schemas and rules. These rules, schemas and scripts are subject to destabilization and are much more short lived than traditionally understood (Stark 2009). Endorsement activities become pivotal political, social and regulatory mechanisms in the emergence and evolution of a new set of criteria in the development of sustainable architecture in project based organizations.

This study has focused attention on the context of professional associations; it requires further examination of the context of policy as well as a deeper understanding of evaluation criteria across other contexts in this field. In much contemporary research professionals and experts are identified as key institutional entrepreneurs, who rely on their legitimated claim to authoritative knowledge or particular issue domains (Greenwood et al. 2002); what is less clear are the activities, intended or otherwise which they employ to influence, steer or induce a new meaning system.

## References

- Battilana, J., and D'Aunno, T. (2009). "Institutional Work and the Paradox of Embedded Agency", in R. S. a. B. L. T. Lawrence, (ed.), *Institutional Work: Actors and Agency in Institutional Studies of Organizations*. Cambridge, UK: Cambridge University Press, pp. 31-58.
- Battilana, J., Leca, B., and Boxenbaum, E. (2009). "How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship." *The Academy of Management Annals*, 3, 65 – 107.
- Brandon, P., and Lombardi, P. (2005). *Evaluating sustainable development in the built environment*: Blackwell Publishing.
- Cole, R. (2011). "Transitioning from green to regenerative design." *Building Research & Information*, 40(1), 39-53.
- Colyvas, J., and Powell, W. W. (2006). "Roads to institutionalization." *Research in Organizational Behavior*, 21, 305-353.
- Curwell, S., and Cooper, I. (1998). "The implications of urban sustainability." *Building Research & Information*, 26(1), 17-28.
- Deephouse, D. (1996). "Does isomorphism legitimate?" *Academy of Management Journal*, 39, 1024-1039.
- Development, W. C. o. E. a. (1987). *Our Common Future*: Oxford: Oxford University Press.
- DiMaggio, P. (1988). "Interest and agency in institutional theory", *Culture and Environment*. Cambridge, MA: Ballinger, pp. 3-21.
- DiMaggio, P. J., and Powell, W. W. (1983). "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields." *American Sociological Review*, 48, 147-60.
- Edwards, B., and Hyett, P. (2001). *Rough guide to sustainability*: RIBA Publications.
- Gann, D. M., Salter, A. J., and Whyte, J. K. (2003). "The Design Quality Indicator as a tool for thinking." *Building Research and Information, Special Issue on Design Quality (Gann, D.M. and Whyte, J.K. eds.)*, 31(5), 318-333.
- Gann, D. M., and Whyte, J. K. (2003). "Editorial: Design Quality, its Measurement and Management in the Built Environment, Building Research and Information, Special Issue on Design Quality (Gann, D.M. and Whyte, J.K. eds.)." 31, 5(314-317).
- Godfaurd, J., Clements-Croome, D., and Jeronimidis, G. (2005). "Sustainable building solutions: a review of lessons from the natural world." *Building Research & Information*, 40, 319-328.

- Government, H. M. (2010). "Low Carbon Construction Final Report."
- Greenwood, R., Suddaby, R., and Hinings, C. (2002). "Theorizing change: The role of professional associations in the transformation of institutionalized fields." *Academy of Management Journal*, 48(1), 58-80.
- Guy, S., and Farmer, G. (2001). "Reinterpreting sustainable architecture: the place of technology." *Journal of Architectural Education*, 54(3), 140-148.
- Guy, S., and Moore, S. (2004). *Sustainable architectures: cultures and natures in Europe and North America*: Routledge.
- Hoffman, A. J., and Ventresca, M. J. (2002). *Organizations, policy, and the natural environment: Institutional and strategic perspectives*: Stanford, CA: Stanford University Press.
- Jarzabkowski, P., Matthiesen, J. K., and Van de Ven, A. (2009). "Doing which work? A practice approach to institutional pluralism", in L. Lawrence T., B. and R. Suddaby, (ed.), *Institutional Work: Actors and Agency in Institutional Studies of Organizations*. Cambridge, UK: Cambridge University Press.
- Jennings, P. D., and Zandbergen, P. A. (1995). "Ecologically sustainable organizations: An institutional approach." *Academy of Management Review*, 20(4), 1015-1052.
- Jones, C., Maoret, M., and Massa, F. G. (2011). "Rebels with a Cause: Formation, Contestation, and Expansion of the De Novo Category "Modern Architecture," 1870–1975." *Organization Science*, Articles in advance, 1-23.
- Khaire, M., and Wadhvani, R. (2010). "Changing landscapes: the construction of meaning and value in a new market category- Modern Indian art." *Academy of Management Journal*, 53(6), 1281-1304.
- Lawrence, T. B., Suddaby, R., and Leca, B. (2009). *Institutional Work: Actors and Agency in Institutional Studies of Organizations*, Cambridge: Cambridge University Press.
- Lounsbury, M., and Crumley, E. T. (2007). "New Practice Creation: An Institutional Perspective on Innovation." *Organization Studies*, 28(7), 993-1012
- Lounsbury, M., Geraci, H., and Waismel-Manor, R. (2002). "Policy discourse, logics and practice standards: Centralising the Solid-Waste Management field", in A. Hoffman and M. J. Ventresca, (eds.), *Organizations, policy and the natural environment*. Stanford University press.
- Lounsbury, M., Ventresca, M. J., and Hirsch, P. M. (2003). "Social movements, field frames and industry emergence: a cultural–political perspective on US recycling " *Socio-Economic Review*, 1(1), 71-104.
- Papanek, V. (1995). *The green imperative: natural design for the real world*: New York: Thames and Hudson.
- Powell, W. W., and DiMaggio, P. J. (1991). *The new institutionalism in organizational analysis*: Chicago: University of Chicago Press.
- Prakash, A., and Potoski, M. (2006). *The Voluntary Environmentalists: Green Clubs, ISO 14001, and Voluntary Environmental Regulations*: Cambridge, UK: Cambridge University Press.
- Quinn Trank, C., and Washington, M. (2009). "Maintaining an institution in a contested organizational field: the work of AACSB and its constituents", in L. Lawrence T., B. and R. Suddaby, (ed.), *Institutional Work: Actors and Agency in Institutional Studies of Organizations*. Cambridge University Press.
- RIBA. (2011). *Green Overlay to the RIBA Outline Plan of work*.
- Scott, R. W. (2001). *Institutions and Organizations*, Thousand Oaks, CA: Sage Publications.
- Slessor, C. (2001). *Eco-tech: sustainable architecture and high technology*: New York: Thames and Hudson.

- Stark, D. (2009). *The Sense of Dissonance: Accounts of Worth in Economic Life*: Princeton University Press.
- Suchman, M. (1995). "Managing legitimacy: strategic and institutional responses." *Academy of Management review*, 20(3), 571-610.
- United, N. (1992). "United Nations Framework Convention on climate change". City.
- United, N. (1997). "The Kyoto Protocol to the United Nations Framework Convention on Climate Change". City.
- Ventresca, M. J., and Mohr, J. W. (2002). "Archival Research Methods", *Blackwell Companion to Organizations*. pp. 805-828.
- Wijnberg, N. M., and Gemser, G. (2000). "Adding Value to Innovation: Impressionism and the Transformation of the Selection System in Visual Arts." *Organization Science*, 11(3), 323-329.
- Zhao, W. (2005). "Understanding classifications: Empirical evidence from the American and French wine industries." *Poetics*, 33(3-4), 179-200.
- Zietsma, C., and McKnight, B. (2009). "Building the Iron Cage: Co-creation work in the context of competing protoinstitutions", in T. B. Lawrence, R. Suddaby, and B. Leca, (eds.), *Institutional Work: Actors and Agency in Institutional Studies of Organization*. Cambridge University Press, pp. 143-177.