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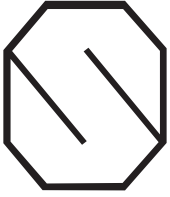**Additional services and information for *Organization Studies* can be found at:**

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Abstract

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In this paper, we adopt a discourse analytic methodology to explore the role of institutional entrepreneurs in the process of institutional change that coincides with the adoption of a radically new technology. More specifically, we examine how Kodak managed to transform photography from a highly specialized activity to one that became an integral part of everyday life. Based on this case, we develop an initial typology of the strategies available to institutional entrepreneurs who wish to affect the processes of social construction that lead to change in institutional fields. The use of discourse analysis in analysing institutional change provides new insights into the processes through which institutional fields evolve as well as into how institutional entrepreneurs are able to act strategically to embody their interests in the resulting institutions.

Keywords: institutional entrepreneurship, photography, discourse analysis, technology

How certain technologies come to be adopted widely, while other, equally plausible, alternatives languish, is a question that has troubled researchers for some time (Tushman and Anderson 1986; Utterback 1994). In recent years, scholars dissatisfied with existing explanations, which typically focus on inherent functional and economic advantages of new technologies, have been calling for a more 'institutional' understanding of the phenomenon that leads to widespread adoption of radically new technologies (Garud and Rappa 1994; Garud et al. 2002; Hargadon and Douglas 2001).

Hargadon and Douglas (2001), for instance, argue that traditional explanations of technological change neglect the social embeddedness of the process through which new innovations become widely accepted (Granovetter 1985). They point out that, in interpreting a radically new technology, actors largely choose from the set of understandings available to them. It stands to reason then that, in order to enhance the chance of a new technology or practice being adopted, institutional entrepreneurs would try to alter these understandings or 'schemas' and 'scripts' to their advantage (Barley and Tolbert 1997).

However, while the role of institutional entrepreneurs in this process is widely acknowledged (Lawrence et al. 2002; Garud et al. 2002), institutional theory still lacks a suitable explanation for how they are able to bring about

institutional change in accordance with their own interests (Hargadon and Douglas 2001). Indeed, institutional theory has often come under fire for failing to provide robust explanations of non-isomorphic change, such as the legitimization of a radically new technology or practice in the first instance (Scott 1987; Leblebici et al. 1991; Barley and Tolbert 1997).

In this paper, we attempt to fill this gap by utilizing insights from discourse analysis (Alvesson and Kärreman 2000; Phillips 2003; Van Dijk 1993, 1997; Grant et al. 1998; Hardy and Phillips 1999; Mumby and Clair 1997), and in particular critical discourse analysis (Fairclough 1992, 1995; Parker 1992). Discourse analysis provides a useful theoretical framework to explore how the socially constructed ideas and objects that constitute the social world are created and maintained. It enables us to observe how institutional entrepreneurs engage in discursive strategies to transform the 'meaning' embodied by particular technologies, by producing new *concepts*, *objects* and *subject positions*.

Specifically, we analyse the introduction of the roll-film camera by Kodak in 1882, and Kodak's role in producing the institutional change that followed. While much research within institutional theory has focused on tracking the introduction and dissemination of new practices or technologies in understanding the evolution of fields (Hoffman and Ocasio 2001; Greenwood et al. 2002), we stress how a transformation in the 'meaning' embodied by particular technologies — the roll-film camera in our case — is critical to the evolution of a new field. Accordingly, we focus on how discursive processes reconstructed the field surrounding photography, and led to the development of this new field. Furthermore, we focus on how Kodak managed strategically to embody its interests in the evolving institutional framework through carefully planned and executed discursive practices (Phillips et al. 2004).

We feel that our study makes three important contributions to the literature. First, we provide an initial typology of strategies of institutional entrepreneurship in the context of the introduction of a new technology. Institutional entrepreneurship is an important aspect of the institutional dynamics that occur around the introduction of new technologies. However, institutional theorists have not gotten very far in investigating these dynamics. Second, in looking at institutional entrepreneurship, we focus attention on the strategic aspects of institutions. While new institutional theory has focused primarily on the taken-for-granted effects of institutions, institutional entrepreneurship points to the importance of agency in institutional processes (Phillips 2003). Institutions constrain, but they also enable, and this aspect of institutions has not received sufficient attention (Barley and Tolbert 1997). Our arguments here add to the growing effort to redress the balance between structure and agency in institutional theory. Third, despite institutional theory's roots in social constructivism, institutional theorists have largely failed to integrate more recent developments in social theory that provide much more powerful tools to understand processes of social construction (Phillips et al. 2004). Our discussion here shows the potential of discourse analysis and related perspectives to contribute to a more robust form of institutional theory.

Discourse Analysis and Institutional Change

In this paper, we explore the central role of institutional entrepreneurs in explaining the formation of new institutions and new institutional fields around new technologies. We argue that, by strategically producing and disseminating various texts,[1] organizations seek to develop discourses that suit their particular interests and advance their preferred technologies. These discourses, which underpin the institutions upon which technologies depend for their widespread adoption, lead to the evolution of new institutions and the modification of institutional fields (Phillips et al. 2004). Discourse analysis thus serves as a valuable aid to studying the role of agents in the micro-dynamics that surround the institutionalization of new technologies.

Critical Discourse Analysis: An Introduction

Discourse analysis provides a useful theoretical framework, and a practical methodological approach, for organizational researchers interested in understanding the constructive role of language in organizational and interorganizational phenomena (Alvesson and Kärreman 2000; Phillips and Hardy 2002; Grant et al. 1998; Putnam and Fairhurst 2001). As a theoretical framework, discourse analysis is grounded in a strong social constructionist epistemology that sees language as constitutive and constructive of reality rather than reflective and representative (Gergen 1999). As a method, it provides a set of techniques for exploring how the socially constructed ideas and objects that constitute the social world are created and maintained. Where more traditional qualitative methodologies work to interpret social reality as it exists, discourse analysis endeavours to uncover the way in which it was produced and is held in place. Discourse analysis is therefore complementary to other forms of qualitative inquiry used in organization and management theory, but adds a useful focus on processes of social construction.

For our purposes here, we define a discourse as an interrelated set of texts that brings an object into being, along with the related practices of text production, dissemination and reception (Chalaby 1996; Parker 1992). Discourse analysis, then, involves the structured and systematic study of texts — including their production, dissemination and consumption — undertaken to explore the relationship between discourses, agents and the production of social reality (Van Dijk 1997). The texts that make up discourses may take a variety of forms, including written texts, spoken words, pictures, videos or any other interpretable artefact (Grant et al. 1998).

It is important to point out that texts are not meaningful individually. It is their links to other texts, the way in which they draw on different discourses, how and to whom they are disseminated, the methods of their production and the manner in which they are received and consumed that make them meaningful. Our approach to the study of discourse is therefore 'three dimensional' in the sense that it links texts to discourses and locates both within a particular historical and social context (Fairclough 1992; Fairclough and Wodak 1997). Discourse analysis is concerned equally with all three

levels and with the interrelationships among them. And, from an organization and management theory perspective, it is this concern with context — that is, the social world of organizations — that makes the study of texts and discourses useful and interesting.

Discourses constitute three kinds of social entities: concepts, objects and subject positions (Fairclough 1992). Concepts are more or less contested social constructions, residing only in the realm of the ideal, that form the culturally and historically situated frame for understanding social reality (e.g. the idea that a species of animal can be 'endangered'). Objects, on the other hand, are parts of the practical realm made sensible by discourse (e.g. the Snow Leopard as an 'endangered species'). They are partially ideal but have a material aspect. Put another way, when a concept is used to make some aspect of material reality meaningful, an object has been constituted. Subject positions differ fundamentally from objects and concepts in that they are locations in social space from which certain more or less well defined agents produce certain kinds of texts in certain ways (e.g. a psychiatrist producing a diagnosis). They are identities that allow agents to participate in a discourse in particular ways (e.g. certify someone insane). This ability to produce texts is important for two reasons. First, being able to inhabit a subject position allows the agent to have particular effects on how objects are constituted. Second, many of the texts that make up the discourse are produced from certain socially constructed positions that can only be inhabited by certain kinds of agents. Being able to inhabit one of these positions allows the agent to have particular effects on the discourse.

The idea of concepts, objects and subject positions emerging out of discourse provides a very useful framework for examining processes of institutionalization (Phillips et al. 2004). From this perspective, institutions are social constructions produced by discourses. They are concepts, objects and subject positions that have become institutionalized and have come to characterize a particular institutional field. The ramifications of this observation are explored in the next section.

Discourse and Institutions

In new institutional theory, institutions are defined as 'historical accretions of past practices and understandings that set conditions on action' through the way in which they 'gradually acquire the moral and ontological status of taken-for-granted facts which, in turn, shape future interactions and negotiations' (Barley and Tolbert 1997: 99; also see DiMaggio and Powell 1991; Jepperson 1991; Leblebici et al. 1991; Meyer and Rowan 1977; Zucker 1977). Institutions are seen to influence behaviour because departures from them 'are counteracted in a regulated fashion, by repetitively activated, socially constructed, controls' (Jepperson 1991: 145).

Given its emphasis on conformity, institutional theory is often seen to struggle with explaining non-isomorphic change. A common explanation of such change within institutional accounts involves 'triggers' or external events that precipitate change, opening up taken-for-granted institutions to scrutiny

once again. Technological innovation is a usual suspect in this regard. However, in attributing institutional change to a single event, theorists move away from their constructivist roots (Berger and Luckmann 1967) and follow a tradition more closely associated with economic or functionalist accounts of change. Indeed, while economists have produced important studies of why particular designs were adopted widely or how we got locked into particular standards (Arthur 1994; David 1985; Cusumano et al. 1992), they are characterized by a conspicuous lack of attention to institutional and cultural aspects of the change. In other words, they are not concerned with how various innovations or 'events' come to be theorized (Greenwood et al. 2002; Munir 2005) or given meaning, which in turn renders them legitimate for popular consumption.

The core premise of this paper is that 'events' are socially constructed (Munir 2005) and implicated discursively by institutional entrepreneurs in processes of institutional change. We rely on the discursive model of Phillips et al. (2004) in claiming that institutions are constructed primarily through the production of texts, rather than directly through actions. As they argue:

'Actions do not easily allow for the multiple readings by multiple individuals that are necessary if ideas for organizing are to be transmitted across time and space. Texts, on the other hand, do (Taylor and Van Every 1993). Texts allow thoughts and actions to transcend "the essentially transitory character of social processes" and to cross "separate and diverse local settings" (Smith 1990: 168). In other words, actions may form the basis of institutionalized processes but, in being observed and interpreted, written or talked about, or depicted in some other way, texts are generated (Taylor et al. 1996) and mediate the relationship between action and discourse. Accordingly, we argue that institutions are constituted by the structured collections of texts that exist in a particular field and that produce the social categories and norms that shape the understandings and behaviors of actors.' (Phillips et al. 2004)

In other words, in modern societies the production of institutions is a largely textual affair. As our experiences of one another are increasingly mediated by systems of communication that do not allow for the direct observation of one another's actions, it is also increasingly the case that we understand each other through complex collections of texts. For example, the propagation of TQM throughout the industrialized world did not occur from direct observation of quality circles and the like. Rather, for most companies, it involved the interpretation of texts produced by a wide array of consultants, academics and companies describing their successes and failures. The institutionalization of TQM was therefore a largely textual process, and we can use a discourse analytic framework to explore the process of institutionalization around new institutions. We can therefore also use discourse analysis to explore the institutionalization of new technologies, by recognizing that this too is largely a textual phenomenon and by seeking out the important texts that interested agents produced as they worked to shape the process of institutionalization in their favour.

Indeed, while not specifically addressing the question of institutional change, du Gay et al. (1997) show the promise that discourse analysis holds in their discussion of the Sony Walkman. Their study of Sony's advertising campaign for the Walkman shows how the product derived its meaning from

the identities of the celebrities whose images appeared in the ads (e.g. Marvin Gaye) as well as from the practices that were depicted in these (e.g. running outdoors, skating, etc.). In our study of popular photography, we have the opportunity to go much further, demonstrating not only how new technologies are embedded in existing practices, but also how new roles and institutions are created while existing institutions are modified to create a particular context in which users make sense of the new technology.

Kodak and the Popularization of Photography

In the first part of this section, we describe how, before Kodak introduced its roll-film camera design, photography was firmly established as a professional and commercial activity. In the second part, we discuss the various discursive strategies that Kodak adopted in order to transform photography from a professional practice to a popular, social one. Our analysis is based on data from 1882, when Kodak introduced its roll-film camera, to the late 1930s, by which time it was a highly institutionalized technology. In order to construct a comprehensive account of this period, we drew upon various texts that were either created and disseminated by Kodak in order to construct a new discourse around the practice of photography, or produced to make sense of Kodak's discursive efforts (Hirsch 1981, 1997; Jenkins 1975; Johnson 1999; Spence and Holland 1991; West 1999). These also included advertisements appearing in household as well as leisure magazines; company documents and annual reports; industry reports; trade journals; and newspapers. We also utilized published articles in other sources; biographies of notable industry people (Brayer 1997); books on photography and photographic technology (Jenkins 1975); and several other much more general historical accounts of that period[2] (Coe 1976; Cowan 1997). Finally, as part of the data collection process, we interviewed several senior industry executives to ascertain that no major source of information was being left out in our data-collection phase.

While writing up the case, our focus was always on the production of various discourses highly influential in shaping the emerging field. At all times, we paid attention to the contrary moves of Kodak's competitors, who attempted to create a counter discourse more in line with their interests. Our in-depth archival research uncovered several little-known facts, strategies and texts that played a crucial role in establishing photography as a popular activity. Many of these are crucial to understanding how, through its discursive actions, Kodak was able to influence the change in meaning of a technological artefact, the roll-film camera, from a technology that was considered of little use to photographers to a commonplace object that became an integral part of social life.

The Introduction of Kodak's Roll-Film Design

Before Kodak[3] introduced its landmark roll-film camera in 1882, taking a photograph was a complex procedure. A glass plate was prepared and

installed in the back of the camera by the photographer; he (in almost all cases it was a 'he') then allowed light to pass through the lens of a camera, which focused it on the pre-sensitized glass plate; the photographer then carefully removed the plate from the camera and stored it away from all sources of light; this plate was later treated by the photographer, using a number of chemicals in a darkroom (see Coe 1976). This glass plate process required specialized knowledge of photography, since the image needed to be developed in a darkroom with the help of various chemicals and other equipment. Moreover, the photographer needed to carry a stack of glass plates whenever he ventured out of the studio, whether to cover a war or some other event (Leggat 1995). The major advancement of Kodak's roll-film camera was the replacement of the fragile glass plates by a chemically coated film that allowed permanent images to form. This relieved the photographer from handling glass plates, and made cameras much more compact. However, the images produced by these cameras were of extremely poor quality compared with those produced on dry glass plates, and were openly derided by the professionals and serious amateurs who then dominated the practice of photography.

The 'professionals' practised photography commercially, following prescribed rules, technical standards and an unwritten code for photographers (such as valuing precision over aesthetics). 'Amateurs', on the other hand, were mostly from the upper and middle classes and took photographs as a hobby (Zimmerman 1995). Amateurs typically viewed photography as an art form. An 1896 review of amateur photography in the American lifestyle magazine *Cosmopolitan*, for instance, encouraged amateur photographers to study great works of art, claiming its visual organization would train the amateur to see the world 'artistically' — that is, according to the principles of dominant, museum-preserved traditions in art (Johnson 1999).

When Kodak introduced its roll-film camera in this context, it did not automatically go on to become the most successful design in the history of photography. In fact, contrary to most accounts of the history of photography, roll-film technology was initially considered a *failure* by everyone, including Kodak (Jenkins 1975). The first and foremost issue was whether it was needed at all!

While it was widely believed that the idea behind roll film was quite innovative, this technology had actually been around for some time. A major reason for its poor reception up to that time had been the extremely poor quality of the images it produced. While the camera did offer more mobility, this feature could not compensate for this drawback, which was exceedingly important to both professionals and serious amateurs, who constituted the great majority of the market for cameras. Such was the disdain towards this innovation at the time, that the other formidable players in the photographic industry did not even bother with this new contraption (Jenkins 1975).

Thus, while the solution was at hand, the problem remained to be created (Latour 1987). Cameras and other implements of photography were still considered tools of the experts, and 'Kodak moments' did not yet exist in the popular imagination. As Jenkins suggests, the great majority of Americans

had for the most part 'never entertained the thought of taking a photograph, let alone pursuing the complicated operations of developing and printing that were required following exposure' (Jenkins 1975: 112). Over the next three decades, however, photography was transformed from a complex, alchemy-like activity to a popular social practice that became part of everyday life for billions of people around the world, who found it suddenly necessary to 'preserve memories' and record all the Kodak moments in their lives. On vacations, weddings, birthdays or simply at home, cameras became ubiquitous.

Managing the Meaning of Photography

In this section, we focus on Kodak's role in strategically producing innovative texts that drew upon institutions emerging in the rapidly changing social landscape, and that led to the birth of popular photography. In examining the various texts that Kodak produced and disseminated, we were able to discern four discursive strategies adopted by Kodak, each concerned with giving a particular meaning to the roll-film camera design and the kind of photography that it enabled. These included: embedding the new technology in institutionalized practices beyond the field; the creation of new roles; the production of new institutions; the modification of institutions within the field. In the remainder of this section, we describe how Kodak achieved each of these. It should be noted that we do not mean to suggest that Kodak accomplished this feat unabetted or in some kind of a social vacuum. Rather, Kodak managed successfully to exploit various discourses emerging at the societal level, to create a discourse of photography that was critical in turning a commercial failure into an enduring success.

Embedding the New Technology in Existing Institutionalized Practices

The transformation of the roll-film camera design, from an invention that was considered interesting but of little use, to a very useful, taken-for-granted part of social life, had much to do with how it came to be embedded in a range of highly institutionalized practices (du Gay et al. 1997). Kodak produced a range of texts that affected other discourses in ways that implicated the new technology in these existing discourses and related institutionalized practices. This discursive strategy provided the new technology with both legitimacy and a taken-for-granted role in already established institutions. Once this was accomplished, each time the already established institution was invoked it was only 'natural' that the new technology was also invoked along with it.

This was achieved through the production of innovative texts that combined existing discourses that supported highly institutionalized practices with constructions of photography. The strategy of combining references to multiple discourses, referred to as interdiscursivity (see Fairclough 1992) in the discourse analysis literature, serves to inject concepts, objects and subject positions from one discourse into another.[4] So, in our case, in various texts the new technology was constructed as a natural part of some other existing

institution that was constituted by another discourse. Often, the new technology was shown to be not just compatible with the existing institution, but to enhance it. Texts were produced and disseminated that depicted the new technology embedded in the enactment of the existing institution with positive and congruent results.

Consider how Kodak made photography an integral part of one popular social institution — the vacation. Prior to Kodak's introduction of the roll-film design, taking a camera along on a vacation was extremely cumbersome and it was not a common social practice. Yet, despite the fact that Kodak's cameras were light, portable and simple, the concept of taking cameras along on vacations was not a natural step. This transition required Kodak's intervention through their advertisements and other promotional activities.

Early Kodak advertising promoted the roll-film cameras in ads that showed the spirit of 'adventure'. Kodak encouraged people to go on vacation and bring back pictures of exotic peoples and places. With time, however, the spirit of adventure that was associated with travel gave way to a more 'touristy' approach (Boorstin 1961). This was in keeping with wider changes at the societal level, which saw the motivation behind taking a camera along on travels shifting from one centred on exploration and curiosity to a ritualistic one that is best captured in the popular phrase, 'been there, done that'. Kodak, through its ads, and together with transportation and communication technologies, facilitated the decline of the traveller and the rise of the tourist.

As Boorstin (1961) points out, these tourists, armed with their Kodaks, have usually already consumed an array of exotic and glamorized photographs of the place before arrival. Upon arriving, these tourists seek out these very sites to visit and photograph them in order to feel that their trip is complete. Kodak played its part in this transformation by arranging various attractions for the tourists, including hula dances in Hawaii, where tourists got an opportunity to see 'natives' (paid by Kodak) enacting age-old rituals. Similarly, Kodak arranged to have over 3,000 signs put up on American highways announcing 'Picture Ahead' and drawing people's attention to vistas that 'deserved to be preserved' by them.' Possession of photographs that depicted various travels were thus part of people's identity and social status. No longer were vacations only pursuits of pleasure, but their significance increased manifold because they could now be recorded and displayed as a symbol of the vacationer's worldly knowledge and status.

Figure 1 represents the extent to which Kodak attempted to embed technology in the idea of a vacation, making the invocation of a vacation equally the invocation of a camera. To this day, vacationers take their cameras as they head out for a day of sightseeing, which necessarily includes capturing those sights with their roll-film camera. The idea of a vacation was thus transformed to the point where people reflexively understood that 'a holiday without a Kodak is a holiday wasted'.

Creation of New Roles

While embedding a new technology in existing institutionalized practices was an integral part of Kodak's discursive struggle, it was by no means the only strategy that Kodak adopted. Equally critical to the creation of popular photography was the creation of a new subject position for children, women and other 'lay' persons — that of a 'photographer'. They, in turn, produced texts called photographs. Kodak itself produced many new texts that accumulated into a discourse that fixed this new subject position in terms of the user group's relation to the technology. Photography, along with the new motivations for it, was integral to this new subject position making it accessible to them.

However, in making photography a social rather than an individual activity, Kodak needed to make it meaningful to ordinary people who had never practised it. In doing this, Kodak faced several critical issues. First, photography was considered inaccessible to the layperson because of the complex developing procedures involved. Second, it was considered a practice securely in the domain of artists and professionals. Before Kodak could succeed, it needed to dismantle these existing discourses. Kodak took care of the first issue by separating photography from photo development. By taking care of developing itself, and transforming the complex camera into a box where one just had to 'push a button', Kodak redefined the camera and, with it, photography. Cameras were sold preloaded with film. Upon completion of the roll, the user returned the camera with the film in it to Kodak, who took out the film, developed and printed it, loaded a new film into the camera and returned all this to the user. With the elimination of the need for knowledge

about development, photography became feasible for the layperson, enabling him or her to perform this new role with ease.

This development was accompanied by a particularly bold move by Kodak in which the most coveted attribute of this practice — quality — was sacrificed to produce highly simple and cheap cameras. The Kodak Brownie camera, introduced in 1900 and available at the time for $1.00, was the most popular exponent of this strategy. Kodak's efforts to popularize the Brownie were, at all times, opposed by the proponents of the existing discourse that surrounded photography (Zimmerman 1995). To professionals and serious amateurs, photography was losing its stature as 'art' and a serious pursuit. Several eminent photographers, including Alfred Steiglitz, openly opposed the unbridled popularization of the activity (Johnson 1999). A distinction was soon drawn between 'photographers' and 'button-pushers'. One example of such a distinction is the following quote by a reader of the popular photography journal, *The Photo-American*:

'Dear Women friends
  'I am so glad you are all coming together to help us make something more than a tiddley-winks pastime out of photography. I do despise "button-pressers" in anything, and that is because I have been to Vassar.' (Quoted in Johnson 1999)

By 1900, many photographic companies had come around to the idea that photography could be taken to the masses. However, the discourse of photography as a serious, technical and artistic activity had permeated to such a degree that it was inconceivable for most manufacturers to sacrifice quality of image in favour of simplicity. In other words, while they understood the need to make photography simpler, they were willing to go only as far as they could without reducing the quality of the image that would be produced. To most, it meant promoting dry-plate cameras, but making them simpler so that the masses could use them. Kodak, in contrast, fashioned a discourse that positioned photography as an activity for the masses.

As mentioned earlier, despite Kodak's success, it was not able to fashion any discourse it pleased. Indeed, its discursive activity, far from operating in some vacuum, was based and shaped by the relevant discourses that operated at the societal level (Lawrence and Phillips 2004). Between 1880 and 1920, there was a transformation in the organizational environment, characterized by expanding markets and falling prices and culminating in the merger movement, whose attendant internal and external changes have been termed the 'corporate revolution' (Jenkins 1975; Chandler 1959). The railway network had expanded exponentially, enabling the masses to travel, a luxury previously reserved only for those with necessary means, and automobiles were also becoming affordable to an increasing number of Americans (Chandler 1959). Improved production technology promoted economies of scale, which resulted in falling prices and increasing competitive pressure among manufacturers. A mass consumption culture was gradually forming and national markets were developing.

Kodak's creativity or entrepreneurship lay in exploiting these societal-level discourses to construct a new discourse at the institutional field level, and

changing the technology to enable this to occur. In contrast, by rejecting these societal discourses that had, after Kodak's simplification of photography, suddenly become relevant, Kodak's competitors chose a different path: one that sought to retain the existing meaning of photography and yet make it a popular activity.

One particular segment whose enrolment is highly illustrative of Kodak's discursive strategy was women. Kodak intervened in the gender divide in photography, making it a legitimate and even 'required' activity for women who had previously been excluded from this practice. Kodak invited young women to adopt it as part of their effort to be fashionable and independent. In 1889, the first advertisements appeared featuring 'Kodak Girl', a smiling, young and fashionable woman aiming her Kodak (Figure 2 shows her as she was by 1934). Kodak Girl symbolized the modern, adventurous, independent female and was soon to become the company's central image. Featured first on posters and then on 2-m high cardboard cut-outs, Kodak Girl models also made live appearances at stores. Kodak Girl soon became the feminized icon memorialized in Kodak advertising copy from the 1890s until the 1960s. She was not only a suggested camera operator, but also someone to be

Figure 2.
Kodak Girl at the
World's Fair, 1934
Source: Courtesy
© Eastman Kodak
Company

photographed (Johnson 1999). While there was certainly some scepticism about how 'ladylike' it was 'to Kodak', Kodak's elaborate advertising campaigns, emphasizing the connection between women, cameras and family, served substantially to alleviate that concern. By the end of the 19th century, it had become a moral imperative to record family 'history', and to seek out pleasure in the production and consumption of images as an inclusive family activity (Hirsch 1997).

While Kodak's poster girl stood in opposition to the prevailing gender ideology, aspects of the new role were highly conformist. Thus, Kodak designed 'Petite' cameras and an art deco line of 'Vanity Cameras', which came colour-coordinated in a variety of shades for 'modern girls'. One ad went so far as to proclaim the camera the hit of the fashion season:

'Swagger … aristocratic … modernity at its best … those are the words to describe what is probably the most momentous addition this spring to the correct ensemble.' (Quoted in West 1999)

In this description, as in all descriptions of the Vanity Kodak, the language of fashion displaces attention to mechanical or technical considerations.

Through its pioneering advertising, Kodak was essentially exploiting an emerging discourse of modernism (Cowan 1997) at the societal level. For instance, according to West (1999), the camera that the Kodak girl held in her hand was modelled entirely on concepts of the modern handbag. For fashion-conscious women in the 1920s, 'handbags were among the most important of accessories, their colours, linings, pockets and clasps all carefully considered in the act of purchase' (West 1999: 109). Discourses on fashion were thus clearly at play in Kodak's ads.

Kodak's association of its products with the discourses of fashion effectively ended with the Vanity Kodak. Following World War I, Kodak began associating its cameras with housewives and family life instead of young fashion models. Again, Kodak was capitalizing on a strengthening discourse surrounding the family, that had emerged when soldiers, who had been away from their homes for years, reunited with their families. Women were back in the house, raising children, and men went back to civilian life. Eastman recognized this social dynamic, building upon the emphasis on the woman as 'efficient' housewife, and encouraged women to create family histories through photographs. The first series of sketches commissioned by Eastman for publicity purposes depicted 'families', and celebrated children, in particular middle- and upper-class children, and families (Hirsch 1997; Johnson 1999). The initial wave of commentary and promotion that sustained the no.1 Kodak and Box Brownie immediately pervaded American households. The *Kodakery* journal directed attention to family-oriented production and consumption, which encouraged the recording of 'family moments', later to be known as 'Kodak moments'.

Kodak thus helped construct various roles for women, all in relation to its technology. They were encouraged to be historians, or efficient and meticulous chroniclers of their family lives (Hirsch 1997). At the same time, they were encouraged to appear modern, with cameras appearing in ads next to other symbols of modernity, such as automobiles, or at fairs exhibiting technological

innovations (Cowan 1997). The imagery was clear and the texts convincing: the modern woman had a camera. (The discursive strategy was, of course, the opposite: possession of a camera made a woman modern!) No one, not even Kodak, could have anticipated that, from a highly marginal position, women would one day become the largest market segment for photography.

Creation of New Institutions at the Field Level

The third discursive strategy that appears in Kodak's efforts at institutional entrepreneurship is the creation of new institutions at the field level. Through the creation of bodies of texts, Kodak was able to constitute new concepts such as the ideas of a 'snapshot' and 'photo album'. These concepts were critical elements of the discourse that was being built around photography, and took enormous effort on the part of Kodak to create.

As we mentioned earlier, prior to Kodak's campaign, photographs were mostly taken either by professionals or serious amateurs. These were highly planned affairs, with the photographer attempting to control several elements, such as lighting, pose of the subject, etc. Kodak's advertising campaign was in stark contrast to this reality. Given the poor quality of images, Kodak highlighted the 'fun' aspect of photography, encouraging users to shoot spontaneously.[5] During the 1890s, for instance, Kodak's advertising focus was on the sheer pleasure and adventure of taking photographs. After 1900, however, with the invention of the Brownie camera, the focus started to shift towards the importance of home and preservation of domestic memories (Hirsch 1981), and advertisements extolled the value of home as a 'bountiful source of charming activities waiting for the snap shooter'.

Kodak actively encouraged chronicling the 'important' moments or events of people's lives. These snapshots served not only as confirmations of family unity (especially during World War I, when the men were away), but also as insurance against an individual's own fallible memory (Johnson 1999; West 1999). During the war years, Kodak ran an elaborate campaign that involved more than 200 ads portraying photographs as a means of organizing experience. Snapshot photography was no longer meant to be merely the sport of the leisured adult, innocent child or fashionable young woman; it was vital to constructing what Kodak ads called 'the home version of history' (West 1999).

It is important to note that snapshot photography was really not as spontaneous as it was made to look. Indeed, Kodak carefully selected the moments, and even subjects, that were to be preserved. 'Candid' snapshots were almost always 'happy' pictures. As West (1999) suggests, Kodak's advertising purged domestic photography of all traces of sorrow and death, and allowed people for the first time in history to 'reconstruct' in photographs the lives that they aspired to. Prior to Kodak, Americans were much more willing to allow sorrow into the space of the domestic photograph. Indeed, 'post-mortem' photographs (photographs of children after they had died) were common in the United States between the 1840s and 1880s (West 1999). These, however, conflicted with Kodak's aestheticization campaign and thus were never emphasized in Kodak's discursive struggle.

Essentially related to the concept of snapshots was the idea of a photo album. Instead of framed positives, which were always professionally developed from dry plates before the roll-film camera, Kodak encouraged the preservation of images in photo albums, which would serve as an archive of family lineage and contain all the beautiful memories in the family's history (Figure 3). Publications like *Kodakery*, and Sears Roebuck's *Better Photos*, diligently promoted the production of photo albums and photo calendars, with an emphasis on the former. The idea was that action picture books, albums and picture diaries could and should be shared with friends and relatives to share experiences repeatedly and solidify family history. The texts promoting the photo album were meant to accomplish much more than just providing a space for storing pictures. They were aimed at letting people subtly recognize the opportunity to reconstruct their lives. Therefore, in most Kodak ads, albums were shown in the middle of happy family scenes. The existence of this new object made picture-taking and viewing more practical, interesting and meaningful. Furthermore, the careful construction of the album as an

Figure 3. Advertisement for a Photo Album Source: Courtesy © Eastman Kodak Company

If it isn't an Eastman, it isn't a Kodak.

The Story of the

KODAK ALBUM

It's the intimate, personal story of the home—a picture story that interests every member of the family. And the older it grows, the more it expands, the stronger its grip becomes; the greater its fascination.

Ask your dealer or write us for "At Home with a Kodak."

EASTMAN KODAK COMPANY,
ROCHESTER, N. Y., *The Kodak City.*

integral part, perhaps even a necessary part, of family interaction was a critical aspect in inspiring the increasing use of the roll-film camera by families as they went about their daily lives, and still do so (Hirsch 1997).

Modifying Existing Institutions at the Field Level

The fourth discursive strategy used by Kodak involved changing the manner in which existing institutions at the field level were constituted, by changing the discourses that constituted them. For example, Kodak needed fundamentally to change the idea of a camera in order to have its roll-film camera accepted as the best possible alternative for photography. To do this, it had to change the criteria that potential users used to evaluate quality (for example, convenience had to become paramount, rather than picture clarity); their idea of how difficult it was to use; and the role of pictures in everyday life.

There were many ways in which this could be done. In all cases, it involved the careful production and dissemination of the texts that constituted the concept of photography. Indeed, at various stages, Kodak was able to alter the 'meaning' of a camera by associating it with different discourses. For instance, initially the roll-film camera was constructed as an easy-to-use 'fun' device. This facilitated the acceptance of poor-quality (in the traditional photographic sense of quality as resolution and clarity) images that the camera produced. The Brownie epitomized this struggle. It was represented in countless texts in association with the discourses of fun, ease and accessibility, which focused attention on these aspects as kinds of quality. Even its name had been pilfered from the contemporary popular children's storybook characters The Brownies (Johnson 1999:129), thus allowing Kodak explicitly to appropriate the discourse that surrounded a popular cultural artefact to popularize its own technology.

Later on, the realization that promoting the roll-film camera could lead to its identification as a 'fad', instead of a serious, valuable technology, prompted Kodak to bring about a change in its framing of the device. In its ads, Kodak began to depict cameras as an essential device that allowed people to capture their precious moments. The children who appeared in early ads as users became subjects. Candid shots of children, whether opening up their presents around a Christmas tree or playing with their first bike, helped craft the concept of the 'Kodak moment' further (Figure 4). Apart from such shots, countless others were added to the repertoire of Kodak moments, ranging from 'happy' family pictures to shots taken on a vacation in some exotic location, or with 'exotic' indigenous people. Cameras, which earlier on were associated with professionals or serious amateurs, and whose possession connoted technical expertise, thus came to symbolize a completely different set of values and a completely different set of measures of quality. The presence of cameras at social occasions became almost essential — a necessary ingredient for 'making' the occasion.

The emerging discourse around photography and the technologies associated with it was enabled and sustained by several concepts, objects and subject positions, whose transformation enabled, and was enabled by, the

Figure 4.
A Kodak Moment,
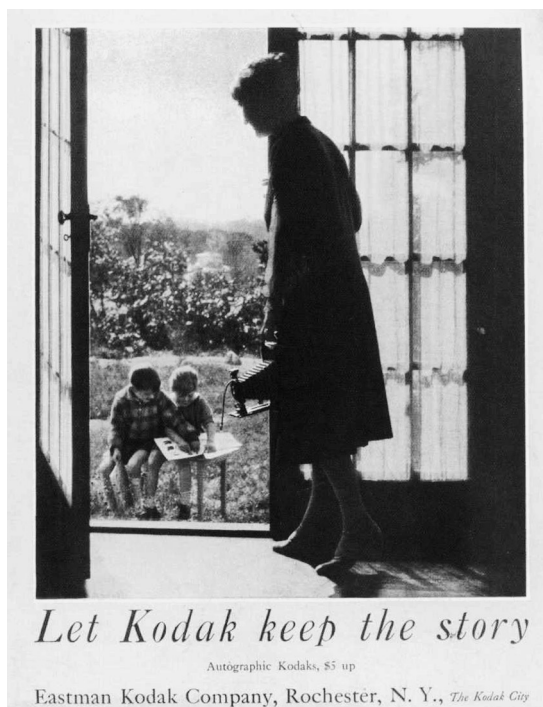1916
Source: Courtesy
© Eastman Kodak
Company

Table 1. Discursive Strategies for Institutionalizing New Technologies

Strategy	Discursive process	Example text	Institutional outcome
Embed technology in existing practices	Produce texts that include interdiscursive references to existing institutions	Figure 1. 'A holiday without a Kodak is a holiday wasted'	Naturalization and legitimation of new technology (e.g. redefining 'vacation' around the new technology)
Create new roles	Produce texts that constitute new subject positions	Figure 2. 'The Kodak Girl'	Make it legitimate for new users to adopt existing technology (i.e. 'modern' women begin to carry cameras)
Create new institutions within the field	Produce texts that accrete to form a new discourse that constitutes new objects and concepts	Figure 3. 'The Kodak Album'	New technologies become institutionalized (i.e. the photo album becomes a part of every home)
Modify existing institutions within the field	Produce texts that influence existing discourses	Figure 4. 'Let Kodak keep the story'	Existing technologies become understood differently (the camera was first a 'fun' device, and later became an essential one)

change in meaning that cameras and other photography equipment underwent. For example, as discussed earlier, the concept of travel had metamorphosed into a very different one: vacation. Kodak played upon these changes and facilitated them where they suited it. And in doing so, Kodak always made sure to infuse its technology into the emerging social institution.

Together, the four basic discursive strategies described above, and summarized in Table 1, enabled Kodak to institutionalize its roll-film technology. In doing so, it managed to establish an institutional field that was quite different from what existed prior to Kodak's introduction of its technology. It is perhaps important to reiterate that, while Kodak's discursive strategies were crucial to the institutional changes that took place, they were significant only in relation to a number of other technological and larger social changes that were taking place. Thus, Kodak's actions both drew upon and influenced the constantly evolving context in which it operated. And it was only through its institutional entrepreneurship that Kodak was able to construct suitable meaning around a technological innovation, thus creating a highly profitable business for itself.

Conclusions

Our goal in this study was to understand the process through which institutional entrepreneurs use discursive strategies to 'institutionalize' new technologies. We used a discourse analytic perspective to examine the relationship between the institutionalization of a new technology and the actions of an institutional entrepreneur. The motivation was to understand institutional entrepreneurship as a discursive process rooted in the production of texts, which accrete and constitute new objects, concepts and subject positions that change the dynamics of the institutional field (or, alternatively, that become part of existing discourses and modify existing objects, concepts and subject positions).

The success of the roll-film camera, after its initial failure, is a good place to explore these relationships. Our analysis revealed that the success of the camera, and the institutional change that followed its introduction, was not a result of any inherent attributes of the technology, although that was an important factor, but instead due to the intense institutional entrepreneurship of Kodak, as it produced thousands of texts that supported a very different idea of what a camera was, who should use it and for what. The discursive theory of institutional entrepreneurship that we developed in this paper helps us to make sense of similar technological revolutions currently underway.

For instance, the advent of digital-imaging technology has led a host of new entrants such as Sony, Toshiba, Epson and Hewlett-Packard into the photographic industry, each fiercely challenging the incumbents. Existing products and competences based on the traditional chemical-based imaging technology are severely threatened by digital technology. Naturally, Kodak, Fuji and other institutional players whose interests are embodied in chemical-based technology are resisting a complete transformation of photography,

which would render their existing competences redundant (Munir 2003). As we would expect, both incumbents and new entrants are locked in an intense discursive battle to redefine or, in the case of incumbents, retain the existing meaning of, photography, using the same discursive strategies that we described in the previous section.

In accordance with our first strategy, Sony is trying to embed its new technology, the digital camera, in existing institutions. For instance, the digital camera is defined in terms of its ability to provide us instantly with images that we can email (an existing institution). Similarly, through numerous texts, Sony has been creating new subject positions, including the user as a developer of photos. Digital camera manufacturers have also been engaged in a discursive struggle to produce the new concept of a virtual album. Through their texts, they have been portraying hard prints as a relic that belongs to the past and stressing the necessity of saving images in cyberspace. Finally, in accordance with our fourth discursive strategy, the very meaning of the camera is being altered by these new entrants. Apart from form and appearance, there are various other bridges that have been constructed between a camera and other electronic gadgets, including a memory storage device (memory stick), which is compatible across a range of electronic items.

The case of roll-film camera therefore has important ramifications for both institutional theory and for research in technology and innovation. From an institutional theory perspective, the idea that institutional entrepreneurship is largely discursive in nature is an important one. However, while institutional theorists have discussed this link, few empirical investigations of the process are available. Yet, as interest in institutional entrepreneurship increases, the usefulness of discourse analysis as a methodology for investigating it becomes increasingly important. Hopefully, our application of it here makes its potential clearer.

For research in technology and innovation, this study offers new insights into the adoption of radically innovative technologies. What becomes clear from the case is that it is not necessarily the nature of the technology that is important in determining its effect on industries (the roll-film camera was initially a commercial failure), but rather the discursive activities of institutional entrepreneurs who work to affect the social context of the technology. Technologies are not, therefore, simply disruptive, or not as much as research seems to suggest (e.g. Christensen 1997). At least from a user's perspective, it is the degree to which some institutional entrepreneur can manage the meanings of the technology and embed it in the everyday lives of potential consumers that determines how disruptive the technology will be. A discursive perspective provides the framework to understand the dynamics of this process and to take the early observations we have made in this paper much further.

However, the perspective we have developed has a much more important ramification: it points to the important connection that institutional entrepreneurship makes between the technology and innovation literature and the institutional theory literature. While institutional theorists have long talked about technology, and while technology and innovation researchers have long

talked about institutions, the connections between the two literatures remain weak. The concept of institutional entrepreneurship, combined with existing knowledge of technology adoption, provides a bridge between the two literatures and a fertile area for further study. The observation from discourse analysis, that technologies can become a type of institution through processes of social construction, provides a very useful foundation for the development of an institutional theory of technology that will strengthen both technology and innovation research and institutional theory.

Notes

1 We use the term 'text' here in a broad sense to include not just written texts but also spoken words, pictures, symbols, artefacts and so on (e.g. Phillips and Hardy 2002: 4).
2 While this archival work was conducted in several different libraries, we owe our biggest gratitude to the staff at New York Public Library for making available to us several different reports and magazines, the publication of which had ceased several decades ago.
3 For simplicity, we will refer to the Eastman Kodak Company as Kodak throughout the narrative. In reality, the Eastman Dry Plate Company changed its name first to Eastman Dry Plate and Film Company in 1884, then Eastman Company in 1889 and finally to Eastman Kodak Company in 1892. The company was led throughout this period by George Eastman ('Eastman' in the text refers to him personally).
4 Put simply, when a text that is part of one discourse includes reference to another discourse, it is an example of interdiscursivity.
5 It is worth pointing out that it is this same aspect of digital photography that is now being used almost universally to enhance the rate of penetration of digital cameras into consumers' everyday life.

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