Microfoundations of Institutional Theory

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Introduction

For almost two decades, scholars have stressed the need to make the microfoundations of institutional theory more explicit (DiMaggio and Powell, 1991; Zucker, 1991). Curiously, there has been limited progress in this effort, although the chapters in this volume by Barley, Glynn, and Sahlin also remedy this deficit. We think that much analytical purchase can be gained by developing a micro-level component of institutional analysis. Moreover, there are useful building blocks from ethnomethodology to Goffman on interaction rituals to Weick on sensemaking and social psychological research on legitimation that can be drawn on.

We begin by making a case for the benefits of examining micro processes. We then selectively review the terrain, cobbling together useful, albeit disparate, lines of research and theory. The thrust of this chapter is generative and by no means intended as a comprehensive survey. From these diverse sources, we contend, a viable micro analysis of institutionalization can be developed. We apply our ideas to several contemporary issues, notably the rise of academic entrepreneurship in universities in the U.S. and the trend toward increased

efforts at earned income by nonprofit organizations. These applications illustrate the analytical utility of our approach. We conclude with a discussion of research tools generated by this line of theorizing which can be used to fashion compelling, multi-level explanations.

Why a Micro-Level Theory of Institutionalization?

The bulk of institutional research has focused on the sectoral, field, or global level. And properly so, as the transfer of ideas, practices, and organizational forms spans the boundaries of organizations, industries, and nations. A core insight of institutional theory is just how taken-for-granted formal organization and rationalization has become (Drori, Meyer, and Hwang, 2006). In our view these macro lines of analysis could also profit from a micro motor. Such a motor would involve theories that attend to enaction, interpretation, translation, and meaning. Institutions are sustained, altered, and extinguished as they are enacted by individuals in concrete social situations. We need a richer understanding of how individuals locate themselves in social relations and interpret their context. How do organizational participants maintain or transform the institutional forces that guide daily practice? From an institutional perspective, how are the passions and interests implicated in human behavior? In our view, the development of micro-level explanations will give more depth to accounts of macro-level events and relationships.

Institutional forces shape individual interests and desires, framing the possibilities for action and influencing whether behaviors result in persistence or change. Macroinstitutional effects, through processes of classification and categorization, create conventions that are the scripts for meaning making. This process is recursive and self-reinforcing. Institutional logics are instantiated in and carried by individuals through their actions, tools, and technologies. Some actions reinforce existing conventions, while others reframe or alter them. Ideas can be picked up in one setting and transposed to another, tools can be multi-purpose, and some settings are rife with multiple logics. Such situations afford considerable latitude for human agency and interpretation.

Nonetheless, the individuals that presently populate institutional analysis are portrayed as either "cultural dopes" (Garfinkel, 1967:68-75) or heroic "change agents" (Strang and Sine, 2002: 503-07). The move to consider institutional entrepreneurs was motivated by a desire to replace the over-socialized individuals who seemed slavishly devoted to habit and fashion. But the celebration of entrepreneurs has perhaps gone too far, as not all change is lead by entrepreneurs, and surely heroic actors and cultural dopes are a poor representation of the gamut of human behavior. Indeed, we recoil somewhat at the frequent use of "actors" in social science writings to characterize both individuals and organizations. As Meyer (this volume) notes, such language typically implies purposive, muscular, rather free actors, unembedded in their surrounding context. Institutional theory gains little by making unleashed actors the drivers of institutional change.

Institutions are reproduced through the everyday activities of individuals. Members of organizations engage in daily practices, discover puzzles or anomalies in their work, problematize these questions and develop answers to them by theorizing them. In turn, participants ascribe meaning to these theories and, in so doing, develop and reproduce taken-for-granted understandings. Institutional transformation is often rather subtle, not particularly abrupt, and apparent only after a considerable period. Rather than perspectives that either highlight habitual replication or savvy change agents, we stress that most micro motives are fairly mundane, aimed at interpretation, alignment, and muddling through. And, as individuals and groups engage in such actions and resist others' attempts as well, they may well transform logics and alter identities.

We contend that institutional analysis needs more attention to everyday processes than momentous events, to less powerful members of organizations as opposed to only leaders or champions, and to cultural and cognitive aspects as well as political ones. Research on external shocks that prompt change and on voices that catalyze transformations has been valuable in adding insight into how institutions are altered. But a more explicit focus is needed on how the local affairs of existing members of a field can both sustain and prompt shifts in practices and conventions. The ongoing activities of organizations can produce both continuity and change, as such pursuits vary across time and place.

There is presently much interest in understanding institutional change, as attention has shifted from early concerns with persistence and convergence to growing concern with dynamics and contestation. We welcome this development, but worry that too many analyses conflate macro factors with structural forces and assume these factors only reinforce stability and homogeneity, while associating micro factors with entrepreneurship and agency. But individuals also play a powerful role in maintaining the social order, and organizations can serve as entrepreneurs. Moreover, macro trends, such as globalization, can be profoundly destabilizing to local orders and individuals. It is a mistake for institutional analysts to blindly equate change with the micro level and persistence with the macro. We need to develop multi-level explanations that account for recursive influences.

Some attention has already been paid to micro-translation, or an understanding of how macro categories get inside the heads of individuals (Jepperson, 1991). Macro framings or values can be "pulled down" to the everyday level of practice, as varied activities can be pursued under a common interpretation or account, or diverse practices can be pursued in the search of a common goal (Colyvas and Powell, 2006; Colyvas, 2007a). Indeed, many micro-processes represent local instantiations of macro-level trends. We need a parallel effort to link key micro-concepts, e.g. identity, sensemaking, typifications, frames, and categories with macro-processes of institutionalization, and show how these processes ratchet upwards. This linkage between levels holds promise to

better explain institutional dynamics. Attention to the mediating role of language, interaction rituals, and categories will help explain how organizational routines and rules develop, stick, and fall into disuse.

Building Blocks for Micro-foundations

As a rough approximation, we divide the literatures we discuss below into two main groupings. The first draws on arguments that adopt a "built-up" focus, in which micro-level rituals and negotiations aggregate over time. These local influences may bubble up and threaten or replace macro-level coherence. The second line of analysis focuses on how macro-orders are "pulled down," and become imbricated in local or particular cases, situating macro effects inside organizations and individuals. Both streams of research are vital to building micro-foundations for institutional theory, but it is important to attend to the different directions of the causal arrows in these research traditions.

There is, of course, an exceedingly broad literature in social psychology. Our goal is selective, that is, to cull useful work that complements the arguments that have characterized institutional theory and aid in explaining the creation, transformation, and impact of institutions. To this end, we draw on research that highlights constructivist processes. To illustrate, consider the verbs typically used in the literatures we highlight. With interactionist arguments, scholars commonly use the terms *saving face* or *affirming*. In ethnomethodology, *negotiate* and *improvise* have primacy. With sensemaking, *enact* is the standard bearer. Research on legitimation processes finds *associated with*, *orient towards*, *comply with*, and *accept*. Note that we rarely find words like *choose*, *plan*, or *determine* (See Weick, Sutcliffe, and Obstfeld, 2005 for a lovely discussion on this point). These verbs are more constructivist and constitutive and interpretive than calculative or purposive. The individuals in these theories *behave*, but they seldom *choose* (see discussion in DiMaggio and Powell, 1991: 7-11).

Many of the writings that provided the initial micro-foundations for institutional theory date from 1967—Erving Goffman's Interaction Ritual, Harold Garfinkel's Studies in Ethnomethodology, and Berger and Luckman's The Social Construction of Reality were all published in that propitious year. It is notable that we continue to draw on this work that is more than four decades old. In their canonical article, Meyer and Rowan (1977) observed that much ceremonial activity, and accompanying categorical rules, generates conflict and uncertainty in day-to-day activities. They proposed that organizations resolve these tensions through decoupling and a logic of confidence. Drawing on Goffman (1967: 5-45), they invoked his idea of "maintaining face." Crafting a distinction between the public face and backstage reality, overlooking or avoiding anomalies, minimizing discordant signals, and decoupling formal procedures and structures from everyday work are all steps taken to maintain the assumption that organizations are acting appropriately and that larger rationalized myths are sustained. This "logic of

confidence" is crucial to maintaining an illusion of consensus within schools, for example.

DiMaggio and Powell's (1991) overview of the elements of a theory of practical action also drew on microfoundations, using an ensemble of ideas from Simon (1945), Garfinkel (1967), and Giddens (1984). Responding to readings of their 1983 article that contended that mimetic and normative isomorphism entailed "mere" copying and replication, they emphasized that practical consciousness involves energy, effort, and reflection. Drawing on Simon (1945: 79-109), DiMaggio and Powell recognized that habitual action does not reflect passivity, but is a skilled means of directing attention. Garfinkel (1967) contributed the critical insight that everyday reasoning requires individuals to negotiate rules and procedures flexibly and reflexively to assure themselves and others around them that their behavior is sensible. Giddens' (1984:54) observation that sustaining social interaction is the "basic security system" of the self, and that control of human anxiety is the "most generalized motivational origin of human conduct" was also influential. DiMaggio and Powell's initial outline of a theory of practical action was brief, but it clearly attempted to build on microfoundations. We seek to continue and deepen that discussion, and build on others who have made contributions in recent years (Jennings and Greenwood, 2003; Lawrence and Suddaby, 2006; Weber and Glynn, 2006; Scott, forthcoming).

Interaction rituals. Goffman (1967) was keenly aware that individual capability at "face work" varied considerably, but that such variation pertained "more to the efficacy than the frequency of its application" (p. 13). Skill at face-work is a distinguishing feature that differentiates individuals. He was also very cognizant of how interaction rituals connected to the larger social order. Goffman himself was a highly skilled card player, and he drew a distinction between "the value of a hand drawn at cards and the capacity of the person who plays it" (p. 32). Not only are the rules of how cards are played highly governed, a reputation for good or bad play is a face that requires maintaining. Such micro encounters at a card table represent sequences of coordinated understandings from which social interaction is accomplished.

For Goffman, speech, expressive behavior, and demeanor embody intentions, but these individual instruments are "governed" by the normative order of society. In Asylums, Goffman (1961) discussed how organizations instill tacit acceptance and conformity through inducements. But in his work on face-saving, he emphasized how individuals use talk, with ritual care, to present an image of self-control and dignity. While standards and rules "are impressed upon individuals from without," the particular rules an individual follows derive "from requirements established in the ritual organization of social encounters" (Goffman, 1967:45).

Ethnomethodology. While Goffman emphasized how facility at everyday interactions sustain face, Harold Garfinkel, one of Talcott Parsons' favorite students, developed a distinctive line of inquiry that stressed the skills that

emerge out of everyday encounters, which generate sociability and reproduce the social order. His ethnomethodological approach has provided tantalizing insights for institutional theory, most clearly in Zucker's (1977) work, where she argues that many taken-for-granted understandings are "built up" from the ground level by participants in interactions, and in DiMaggio and Powell's (1991:22-27) sketch of a theory of practical action. Ethnomethodology never developed into an expansive subfield, and given both its cult-like approach and the controversies it provoked, perhaps it never had the chance. [1] Nevertheless, Garfinkel's focus on practical reasoning and the role of "accounts" in normalizing and legitimating the social order offers considerable insight into the implicit and contested assumptions that make organizational life possible. Rather than find social order in cultural norms or social roles, ethnomethodologists examine the cognitive work that individuals do to assure both themselves and those around them that their behavior is reasonable.

There are several compelling reasons to revisit this line of work. Contemporary scholars are largely unaware of just how much of this research focused on work and organizations. Meticulous studies of record-keeping procedures in juvenile justice facilities (Cicourel, 1968), high mortality wards in hospitals (Sudnow, 1967), and psychiatric clinics (Garfinkel and Bittner, 1967) reveal how counting, reporting, and legal requirements are often highly improvised, as veteran staff draw on deep, tacit knowledge of how reports ought to be assembled. Other work examined case files, folders, and dockets to ascertain the classification schemes used in psychiatry or a public welfare agency, where documents could be treated either as "plain facts" or the opportunity to construct an account that provides grounds for accepting the testimony of the document against the testimony of the welfare applicant (Zimmerman, 1969).

Bittner's (1967) studies of policing on skid row illuminate how officers performed complicated and demanding work with relative ease, without any real personal or peer recognition of their skills. Given that the destitute and mentally ill were often the objects of police work on skid row, perhaps the lack of high regard is to be expected. But Bittner underscored how strongly a powerful sense of craftsmanship among the police was rendered routine, even as it went unacknowledged. Similarly, Sudnow (1965) analyzed how the penal code was used by public defenders with great facility. Lawyers took into account a welter of "facts"--the ecological characteristics of a community, the biographies of criminals and victims, and past records of criminal activity. They transformed a criminal action into a shorthand representation that was intelligible to attorneys and judges. Sudnow's brilliant analysis revealed how delicate teamwork between the offices of public defender and public

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[1] See, for example, the review symposium on Garfinkel's Studies in Ethnomethodology in the January 1968 American Sociological Review, notably Coleman's (1968) blistering critique, or Coser's (1974) presidential address where he used the bully pulpit of the annual ASA meetings to argue that ethnomethodology was a method in search of a theory.

prosecutor in the face of a demanding organizational calendar jointly facilitated the construction of "normal crimes," a proverbial characterization that certain kinds of illegal actions were typically committed by particular types of people. Once such categorizations were made, plea bargaining ensued, based on unstated recipes for reducing original charges to lesser defenses to avoid the costs of trial.

In ethnomethodological studies, categories and classifications become interpretive schema that members of organizations draw on. Over time, these schemas become a repository of organizational knowledge. Particular schemas become routinized through repeated application and use, they develop a habitual, taken-for-granted character. As Berger and Luckman (1967) emphasized, once joint activities are habitualized and reciprocally interpreted, patterns both harden and deepen as they are transmitted to others, particularly newcomers. When schemas become perceived as objective, exteriorized facts, their contingent origins are obscured. Organizations do have rich and varied repertoires, however, and multiple schemas are available. The possibility of mixing or combining practices in alternative or novel ways to produce different patterns is ever present.

Throughout this rich vein of research, ethnomethodologists demonstrate how classifications and categorizations are invoked on the fly by skilled actors to keep peace on the streets, in the courts, in hospital wards, and welfare agencies. Consider the contrast of this view with the conception of organization found in many other lines of organization theory. Rather than struggling with or coping with uncertainty, the practical reasoning view emphasizes how situations are rendered comprehensible, and sees such efforts as an on-going, contingent accomplishment. In contrast, ever since Weber, most students of organizations regard formal structures and procedures as "ideally possible, but practically unattainable" (Bittner, 1965). Selznick (1949), for example, attributed these limitations to the recalcitrance of the tools of action; while Weber conceived of the typical bureaucracy more as a target or an idealization. For the ethnomethodologists, however, bureaucracy is neither a rarified nor lofty goal, but deeply embedded in common-sense routines of everyday life. Organization is a formula to which all sorts of problems can be brought for solution (Bittner, 1965).

This focus on practical reasoning as a routine accomplishment emphasizes how people in organizations both make and find a reasonable world. [2] Organizational life entails constant doing and achieving. For Goffman and Garfinkel, social order is created on the ground floor, through situated local practices. As practices are reproduced over time and across settings, macro categories emerge from these interactions and negotiations.

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[2] Garfinkel (1968) describes this accomplishment aptly: "how jurors know what they are doing when they do the work of jurors."

Performativity. Across the Atlantic, a companion line of work known as actor-network theory has developed in France, focusing on scientific research and practical applications of science outside the laboratory (Latour, 1987). The core assumption of these lively studies is that laboratory life often requires scientists to create material conditions in which theory and reality can be juxtaposed and in so doing create affordances that make science 'work' (Latour and Woolgar, 1979; Callon, 1986). Callon (1998) has recently expanded the actor-network approach to the field of economics, and analyzed how market participants think about economics and act in relation to one another and to the market through their models and artifacts.[3] This approach to "making markets" resonates with core themes of ethnomethodology in the view that phenomena only exist in the "doing" and social relations have to be continuously performed in order to persist.

For Callon (1998, 2006), a discourse is performative if it contributes to the construction of the reality that it describes. Callon (2006) and MacKenzie (2006) are careful to distinguish the idea of performativity from Goffman's imagery of the presentation of self and from Merton's (1948) notion of a self-fulfilling prophecy. A self-fulfilling prophecy often has a pathological form of influence or entails a misconception of the situation. In contrast, performativity is not arbitrary, rather there are contests associated with performance. Success or failure become clear at the end of struggles, when opposition, controversy and cooperation are sorted out. The general claim of this line of study is that such diverse domains as science, technology, accounting, marketing, engineering, and even friendship are all arenas where activities, relationships, theories, and tools are both created and enhanced by their performance.

The Scottish sociologist Donald MacKenzie has been highly influential in developing and studying the idea of "the performativity of economics." He has, with his students, studied many of the major economic innovations of the late 20th century, viewing economists and their theories and tools not only as describers and analysts, but as participants and inventors. Mackenzie and Millo's (2003) research on options trading, which "with its cognitive complexity and mature mathematical models has been a central driver of the marketized, mathematicized risk-evaluation culture" of modern life, shows that the famous Black, Scholes and Merton model did not describe an already existing world. When first introduced, the model's assumptions were unrealistic and prices differed systematically from it. But with its growing use and prevalence, option prices began to exhibit a near-perfect fit to the values

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[3] We do not take up the fascination of the actor network approach with artifacts and their politics. Simply stated, studies demonstrate that economic technologies—trading screens, stock tickers, calculators, etc… do not simply represent the market's ups and downs, but are very much involved in shaping market behavior (Knorr-Cetina and Bruegger, 2002; Buenza and Stark, 2004; Callon and Muniesa, 2005).

predicted by the model. [4] Clearly, technological and computational improvements played a role in the acceptance of options, as did the elite status of the authors of the model, but options pricing came to shape the way participants thought and talked about finance, and altered the understanding of volatility and arbitrage. MacKenzie (2006) does not consider a financial model to be a camera capturing reality, but as an engine that allow traders to explore and exploit economic phenomena.

Abstracting from this important case, MacKenzie (2006) argues that performativity entails transformation: an aspect of economics must be used in a way that has effects on the economic processes in question. The model or tool, he argues, must make a difference, that is, economic processes that incorporate this element of economic reasoning must differ from processes where it is not used. MacKenzie takes pains not to portray modern economists as rational, calculating agents but as human beings, limited in their cognitive capacity and susceptible to social influence. Nor does he fully embrace a view that businesses in the U.S. and around the world have become "financialized," and attend solely to market-value maximization, even though his superb analysis of the legitimation of options pricing provides considerable evidence for such an argument. Instead, his focus on performativity illuminates how human beings can "achieve outcomes that go beyond their individual cognitive grasp" (MacKenzie, 2006: 268). By stressing human cognitive limits and the distributed nature of cognition in contemporary organizations, this line of research demonstrates how the "social" and the "technological" come together to constitute markets.

We turn now to other micro research programs that also focus on how everyday practice in organizations produces meaning—whether in the form of accepted routines or legitimated models. These other approaches, we contend, emphasize more that interaction often draws on the larger social order, as well as accumulated experience, to interpret and produce organizational life. These strands of social psychology attend less to emergence and performance, and more to interpretation, appropriateness, and meaning-making.

Sensemaking. Karl Weick's research program on sensemaking addresses how people enact order and coordinate action. Individuals convert circumstances into action through the reciprocal interpretation of who they are and how they understand their environment (Weick, 1995). Identity, the enacted world, and accepted mental models are all key to this perspective. Taken together, sensemaking is the locus of how "meanings materialize that inform and constrain identity into action" (Weick, Sutcliffe, and Obstfeld, 2005: 409). Weick and colleagues draw on many strands of microsociology to fashion their approach. Garfinkel's (1967) insight that rationality is constructed through commonplace interactions is emphasized; so is Goffman's (1974) use of frames as providing a structure to social context. Sensemaking analyses share

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[4] In 1970, there was no financial trading in "futures," but by 2004, financial derivative contracts totaling $273 trillion were outstanding worldwide.

with ethnomethodology a methodological stance of privileging cases that reveal rather than represent.[5] But there are notable distinctions as well. While the ethnomethodologists highlight the cognitive work of individuals in creating social order, sensemaking attends to the contingent influences of norms and role structure. For Weick, conceptions of identity and logics of action are relational, constructed not only through projections of self and others' perceptions, but also through scripted interactions in relation to what others are "supposed to do." Individuals are enmeshed in a structure of relationships, taking cues from both situations and others, and these guideposts provide substance for them to enact their environments.

In his analysis of the Mann Gulch fire disaster in Montana, Weick (1993) demonstrates how a breakdown in sensemaking explains what went wrong in a seemingly routine encounter for a highly trained crew. The disintegration of the crew's routines in the face of unexpected conditions impeded the firefighters' ability to draw on their stock of experiences to generate a novel means of survival, or to comply with their leader who did. Weick attributes the tragic deaths of these skilled men to three features: a breakdown in role structure among members of the team, a stalwart adherence to a less critical categorization of the fire, and practical challenges to their identities as firefighters. All of these features are reflected in the difficulties that the firefighters faced to make sense of who they were, the situation they encountered, and the repertoire of actions they should take. Because the stock of experience of the firefighters did not match their anticipated, less critical categorization of the fire when they arrived on the scene, the situation was rendered meaningless, as "less and less of what they saw made sense" (Weick 1993: 635). Cues from other firefighters, e.g. stopping for dinner and taking pictures, reinforced a spurious categorization of the fire and impeded the firemen's ability to activate a different course of action. When the leader of the crew, confronted with looming disaster, lit a fire in the only escape route, laid down in its ashes, and called on his crew to drop their tools and join him, the team disintegrated. The firefighter's identities hindered their ability to comprehend an order to drop the very materials that defined who they were and comprehend the practicality of a solution that would have saved their lives. Weick's (1993:633) analysis demonstrates that even very effectively trained and organized teams can falter when "the sense of what is occurring and the means to rebuild that sense collapse together".

From a sensemaking view, many features of organizational life are *uncertain*, which relates to ignorance or the inability to estimate future consequences to present actions. Organization life is also wrought with *ambiguity*, which reflects the inability to attribute clear, mutually exclusive categories, codes or specifications (March, 1994; Weick, 1995). These distinctions are important

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[5] Sensemaking's insight lies in the ways it "captures the realities of agency, flow, equivocality, transience, reaccomplishment, unfolding, and emergence…, that are often obscured by the language of variables, nouns, quantities, and structures" (Weick, Sutcliffe, and Obstfeld, 2005).

because while information can provide a remedy for uncertainty, it can also further ambiguity as evidenced by the Mann Gulch fire, when new information did not fit preconceived categories. Weick also draws on Garfinkel to emphasize that *equivocality* is present when numerous or disputed interpretations exist. As with Garfinkel's jurors, individuals may justify multiple, incompatible accounts, often with the same evidence. Weick argues that uncertainty, ambiguity, and equivocality may occasion different triggers to, and remedies for, sensemaking.

A notable feature of sensemaking studies is a focus on situations where apparently normal events go badly awry.[6] Sensemaking emphasizes interpretation and (mis)perception of the environment, especially where received wisdom is poorly aligned with current context. For example, Scott Snook's (2000) examination of the 1991 "friendly fire" incident when US F-15 fighter pilots shot down their own Black Hawk helicopters in peacetime over the Persian Gulf, demonstrates how an organizational failure may occur without anything breaking or anyone to blame. Snook attributes this tragedy to a slow, gradual drift away from globally synchronized logics of action, encoded in written rules and procedures, to locally generated task-based routines. Such "practical drift" is often manifested locally as adaptation because individuals organize around the immediate demands of work, and thus learn and adjust to their own realities. Similar to Mann Gulch, where the smokejumpers ignored cues that the fire was more serious than categorized, the F-15 fighter pilots were unable to identify that the helicopters were not the enemy. In both settings, the individuals attended to cues that fit their expectations, missing numerous contrary signals. Futhermore, like the smokejumpers, the fighter pilots relied on each other and their team for coordination, and their responses reinforced their mistaken interpretation.
Through an analysis of the complexities of command in military missions, Snook demonstrates how meaning trumped decisionmaking as context, identity, and the enacted environment constrained interpretation and shaped action. The F-15 pilots had to identify "what was going on" before taking any action, and their interpretation was constructed through who they were, prior experience, the pre-flight context, and social interactions (Snook, 2000: 81). Sadly, their inaccurate reading led them to shoot down their comrades in broad daylight.

Sensemaking provides important insights to the analysis of meaning, particularly the idea that meaning making is not only about creation but also contingent expression. For Weick, the key to identifying such instances rests on the view that sense making is inherently retrospective and precedes action because situations are only understood upon completion.[7] Meaning is shaped

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[6] In contrast to ethnomethodology, where Garfinkel's (1967) clever studies of breaching transform mundane encounters into unfamiliar controversies, sensemaking studies tend to analyze how skillful routines can result in terrible tragedy.

[7] Charles Perrow often makes a very Weickian remark, "how do I know what I think until I say it?"

through attention to what has already occurred, and is therefore directed, not attached, to action. This contrast emphasizes the influence of what is current to perceptions of the past. Thus, "…anything that affects remembering will affect the sense that is made of remembering" (Weick, 1995: 26). Furthermore, since outcomes and subjective objects are implicit in interpretation, sensemaking entails a process that simultaneously enacts identity and environment. Identity is central because individuals act based on who they are, not on what choices they have, and this feature is constituted out of the process of interaction. Mead's (1934) insight that each individual is a "parliament of selves" and that "social processes precede the individual mind" are critical. The environment is not viewed as a fixed and stable reality, but as a co-construction of individuals' minds and their actions. Enactment represents the reciprocal interaction of the material and the cognitive world. Thus, individuals and environments are mutually constitutive.

This feature extends the process of sensemaking beyond interpretation. Weick (1995:13-14) likens the distinction between sensemaking and interpretation as the difference between discovery and invention. Interpretation, with its focus on identification and understanding vis-à-vis a wider reality, relates to discovery, which implies that something is evident and needs to be recognized or approximated. Features of the world are pre-given or ready-made. Sensemaking, in its focus on process and generation, relates to invention, which emphasizes how images of a wider reality are created, maintained and rendered objective. Much as action precedes sensemaking, sensemaking is a precursor to interpretation.

A sensemaking approach directs attention to the importance of language, routines, and communication for analyzing micro-processes. While emphasizing that various institutional materials are commonly 'pulled down' by individuals and translated within organizations, these processes may differ across circumstances. Multiple modes of meaning-making occur at the interface of identity and the enacted environment, and how such understandings are forged and enacted occurs through retrospection. Sensemaking is thus a key micro mechanism of institutionalization that allows consideration of both the "cognitive complexities" that guide organizational behavior and recognition of the varied ways that institutionalized practices operate at the micro-level (Jennings and Greenwood, 2003).

Status expectations. Research on expectation states provides a further point of discussion of how macro categories guide micro interactions (Berger, Ridgeway, Fisek, and Norman, 1998; Correll and Ridgeway, 2003; Zelditch, 2001, 2004). This line of research views legitimation as a process shaped by interpersonal status hierarchies, in which individuals draw on widely shared cultural beliefs concerning status and success. These referential beliefs are evoked in situations as both guides for interaction and as ready accounts, creating strong expectations as to the types of individuals who are or should be influential in specific circumstances. In this fashion, broader understandings about who and what is appropriate guide local circumstances, and these

interactional processes further reinforce cultural beliefs about what characteristics and practices are perceived as appropriate.

Research on expectation states and legitimation analyzes the emergence of status within task groups, observing that power and prestige are often accorded based on social stereotypes regarding gender, race, age, education and occupation. In turn, these characterizations shape and legitimate the manner in which group members evaluate one another (Ridgeway and Berger, 1986; Ridgeway and Walker, 1995). Thus, assignments of status draw readily on the macro stratification system, while the assignments and rewards that ensue at the group level reinforce the larger social order.

Put differently, micro-level consensus is generated through a process in which values and beliefs from the larger society are pulled down into local circumstances, creating differential expectations about the performance of individuals in task groups. These expectations can become taken-for-granted features of organizations, and persist even if they are unjust or unproductive, thus giving them an "objective" quality.

Owen-Smith (2001) analyzed a neuroscience lab and the rankings of a community of colleagues with respect to experimental and analytic ability and productivity. He finds that assessments of ability and accomplishment are not neatly correlated. Instead, position in the lab's prestige order was heavily shaped by expectations that accrue with rank and discipline, and whether one was dependent or autonomous in regards to funding. In this academic research setting, gender as a status measure was less consequential than stereotyped expectations based on disciplinary affiliation.

Research on expectation states offers another lens through which to view how widely shared societal beliefs become incorporated and reinforced at the work group level. This line of work emphasizes that it is in the conduct of tasks that social objects and categories drawn from the larger society are rendered legitimate. This perspective complements sensemaking by stressing how external social statuses are manifested in everyday activities.

Micro Perspectives on Institutional Change

We turn to a discussion of two examples of recent transformations that have typically been analyzed in terms of broader social and political currents. In both settings, exogenous forces loom large in current explanations. When attention is directed to the organization level, most reports celebrate risk-taking entrepreneurs. In contrast, our aim is to demonstrate how much explanatory power can be garnered by examining the micro-level processes underpinning these changes. We underscore how the "entrepreneurs" did not even consider that they were taking risks, but instead were responding to unanticipated situations.

Universities and Academic Entrepreneurship. In recent decades, U.S. universities and the profession of academic science have undergone a profound transformation in the way science is conducted. Where university and industry were once separate domains, public and private science have become intermingled, notably in the norms and practices related to career advancement and in the development and dissemination of knowledge. Patenting and licensing academic research findings, taking equity in start-ups, and encouraging academic entrepreneurship have become core features of how U.S. universities define success.

Most studies of this transformation stress either pecuniary interests or national policies (Lach and Shankerman; 2003).[8] Indeed, academic institutions made more than $1.385 billion in gross revenues in fiscal year 2004 from technology licenses (AUTM, 2005). Before 1980, there were fewer than 25 university technology transfer offices, and today there are well over 200 (AUTM, 2005). Clearly, some universities are profiting considerably from technology licensing, and virtually every research university now has a technology transfer office. Government policy has strongly encouraged such efforts. The Bayh-Dole Act in 1980 authorized universities to take title to patents generated by federally funded research. A Supreme Court decision in the same year, *Diamond vs. Chakrabarty*, authorized the patenting of life, providing a catalyst to the emerging biotechnology industry. A few universities, namely University of Wisconsin, Stanford, MIT, and UCSF are credited for shaping the way in which technology transfer became organized (Mowery et al, 2004). Many organizational accounts point to the founders and consultants to university tech transfer programs as the key institutional entrepreneurs for the new university models (Mowery, Nelson, Sampat, and Ziedonis, 2004). One of these founders, Niels Reimers, created the Stanford University Office of Technology Licensing, a highly successful operation that other tech transfer offices have modeled their operations on. Reimers went on to reorganize programs at MIT and UCSF, and consult to many other universities in Europe and Asia. The "Stanford Model" is practically a household term in the technology licensing community, emphasizing a marketing focus, service to faculty, and a lauded "incentive system" of a 1/3 division of licensing royalties shared equally among the department, school, and scientists.

A careful analysis of archival records and interviews with participants at Stanford University suggests an alternative account in which current practices evolved from conflicting conceptions about commercializing science. Colyvas (2007a) analyzes scientists' engagement with commercializing life science inventions at Stanford in the 1970's, long before the Bayh-Dole legislation or significant financial returns from university patents. By examining archival records of invention disclosures of biological scientists, Colyvas identifies how practices took shape in advance of external policy developments, how individual scientists pursued disparate entrepreneurial actions, and how these

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[8] See Sampat, 2006 and Rothaermel, Agung, and Jiang, 2007 for excellent reviews of the debates around university technology policies.

actions were facilitated and anchored by organizational procedures. In the performance of technology transfer, commercializing science was re-shaped and became institutionalized.

In the 1970's, commercialization efforts emerged from scientists' labs when routines for technology transfer were ambiguous and unfamiliar. Unfamiliar projects included the importation of the legal categories of inventor and invention, the problem of establishing boundaries between business and science, and the necessity to establish procedures for distributing royalties. This ambiguity created opportunities for interpretation by both scientists and administrators. Scientists, in the context of their laboratories, generated multiple accounts of who was an inventor, what kinds of science constituted an invention, as well as divergent views of how material benefits from commercial involvement could legitimately be used.

For example, within a basic life science department that eventually became a hotbed of academic entrepreneurship in the 1990's, early efforts in the 1970's were fraught with uncertainty. Three examples from this department are illustrative. One distinguished scientist, concerned with his reputation, allowed the university to license his basic biological research tool only with hesitation and declined any personal royalties, agreeing to participate only after securing agreement to donate his proceeds. "I can accept a view that it is more reasonable for any financial benefits…to go to the university, rather than be treated as a windfall profit to be enjoyed by profit motivated businesses; I agreed to cooperate…for that reason…" (Colyvas, 2007a: 10). Another noted biologist, motivated by how industry development of his invention would disseminate his technology and expand his research program, reasoned that royalties should benefit his laboratory, the locus of the effort for the research. "Many 'inventions' are really the work of a group…Although inventors need to be identified in the technical sense to satisfy the requirements of the patent process, in fact, the most important advances often are made by other members of the group…" (Colyvas, 2007a: 9). This scientist refused to patent basic biological materials, stating that patenting was neither necessary nor appropriate for their dissemination, but he believed that strong property rights for device inventions were important. A third scientist, angered at companies' lucrative exploitation of academic science, demanded remuneration to the university: "Although many of us are not in a position to exploit our discoveries, we do feel that universities…should benefit from profitable applications of our findings. I had hoped that an industry so recently spawned by university research would be enlightened in its recognition of who is responsible for its existence…" (Colyvas, 2007a: 12) He also threatened corporate partners that he would patent 'everything in sight' in order to beat industry at their own game.

These examples provide evidence of significant variation in how scientists in one department at the same university practiced commercialization and ascribed meaning to what they did. In the first example, the scientist utilized an enduring vocabulary from the profession of science, stating that his

contribution to a discovery was only because he was "standing on the shoulders of giants" and could not identify himself as an inventor by profiting personally from a patent. He invoked the legitimacy that is accorded to the scientific enterprise, and the expectations that flow from it. In the second example, political and ideological references provided resources for justifying practices and generating claims of "team effort" that the laboratory was communal and organized to benefit everyone equally. In the third example, the scientist theorized cause and effect in response to his perception of a crisis over industry exploitation, control and justice: "I assure you that I will alert my colleagues throughout the world to guard against what I consider exploitation" (Colyvas, 2007a: 12).

The variation in responses reflects a profound tension between public and private science at the incipient stages of technology transfer. Attention to micro-processes, however, demonstrates how much meanings were generated through practical action as local, experiential aspects of the laboratory and scientists' identities and emotions interacted to construct an appropriate conception of academic entrepreneurship. These scientists were neither cultural dopes nor institutional heroes. As much as they recognized the unfamiliarity of their industry ties and questioned the legitimacy of their activities, they were also aware of the opportunities and benefits of their actions. Involvement in entrepreneurial science was not simply repeated and habituated, however. As practices were executed, they were also altered and justified anew, as the same individuals and their peers tried their hand at subsequent inventions. The organization of the laboratory and the ethos embedded in it informed how technology transfer would be performed.

The organizational ambiguity attached to definitions of inventor and invention, and procedures associated with commercializing science such as royalty distribution, provided multiple opportunities for generating disparate meanings and practices. These individual approaches resonated with the faculty members because they drew on their familiar identities and ideals as scientists in meaning-making processes. As the world of science came into contact with commerce, the identity associated with a university scientist expanded to include entrepreneurship. As more high-status elite scientists participated in such activities, commercial involvement transitioned from unfamiliar and unusual, to plausible and appropriate, and finally to a core component of a scientific career (Colyvas and Powell, 2007). By engaging in the unfamiliar and making it plausible in the context of academia, scientists transformed what it meant to be a scientist. Their involvement helped render the older model of ivory tower science quaint and these new entrepreneurial activities indicative of engagement (Colyvas and Powell, 2007).

A parallel feature of the institutionalization of commercial science was the establishment of routines and practices that created and normalized activities. Colyvas and Powell's (2006) analysis of 31 years of technology transfer archives at Stanford University demonstrates the importance of the instantiation and codification of two core institutional features--legitimacy and

taken-for-grantedness--into organizational rules and procedures. We show how the development of conventions extended academic science further into the industrial realm, and how the integration of universities and companies into a community of common interests became desirable and appropriate. Once prohibited from consulting to companies that commercialized their technologies, academic scientists became emulated for their multiple roles as founders, scientific advisory board members, and equity holders.

Conflict of interest policies and reporting requirements occasioned these opportunities, shaping and reinforcing the appropriate form that entrepreneurship would take. Social and technical categories provided windows into the core cognitive features of taken-for-grantedness. The criteria that distinguished an "inventor" from a co-author, or an "invention" from a research publication were transformed from points of elaborate discussion to well-understood, highly scripted routines and guidelines. The kinds of responsibilities and expectations that would be imposed on scientists in the commercialization process also underwent a similar process of elaboration and subsequent compression. Invention disclosure forms, boilerplate letters of agreement, and marketing tools were developed and revised in order to anchor and support on-going efforts at clarification. As categories became settled, roles were more defined and practices well rehearsed. Job titles, conflict of interest guidelines, and organizational routines developed to sustain these activities. Eventually, there was little need for articulation or explicit expositions of the premises and rationales that characterized scientists' early engagement in entrepreneurship.

Language and meaning played an important harmonizing role at the organizational level as the vocabularies utilized in this setting transformed over time. In the early years, commercializing science was pursued as an exception rather than the rule, justified for the "benefit and use of the public." As university technology transfer gained legitimacy and the once sharp boundaries between university and industry blurred, a more local, institutional vocabulary took form. Finally, during the later stages of institutionalization, the language of entrepreneurship and academic mission became integrated into a common identity of public benefit, profession, and practical action. The language of science and the mission of the university to benefit the public endured, yet the conventions associated with them were redefined as the institutionalization process unfolded. We see similar processes of unexpected circumstances becoming routinized, and made sensible in our second case, to which we now turn.

Earned Income and Nonprofit Organizations. Commercialization is a much discussed topic in the nonprofit world. More and more nonprofits are pursuing commercial activities to secure funds, and turning to earned income activities to boost their budgets. The fiscal challenges faced by nonprofits are considerable and many external funding sources now demand and support more entrepreneurial approaches (Powell, Gammal, and Simard, 2005). Not only do some funding sources stipulate earned income efforts, there are a

growing array of courses, programs, and elite entrepreneurs that proselytize about importing entrepreneurship into the nonprofit sector. Moreover, many nonprofits prefer to deliver goods and services in a fashion that does not create dependency, as they view extensive reliance on donors as a sign of vulnerability and weakness. There is also widespread neo-liberal belief that market discipline is healthy, and entrepreneurial activities generate autonomy and build capabilities (Dees, 1997).

Most of the literature on earned income activities follows two themes. One argument stresses the need to augment the social nonprofit sector with practices from for-profit businesses (Letts et al, 1997; Porter and Kramer, 1999), with attention focused on the individuals and organizations involved in the transfer and circulation of ideas across sectors.[9] To these analysts, entrepreneurial ventures have become the 'hallmark' of a successful nonprofit. The second theme is sung by a chorus of scholars and practitioners who worry that earned income initiatives are particularly difficult for nonprofit organizations and that responding to both financial and non-financial concerns is inevitably fraught with tension (Foster and Bradach, 2005). These discussions are healthy for theory and practice, as they not only highlight the tensions between making a profit and staying true to one's mission, but also recognize that basing decisions solely on mission can threaten financial survival, while putting business concerns ahead of organizational mission can have deleterious long-term consequences (Minkoff and Powell, 2006).

The rival metaphors of mission and business often lead to internal strife within nonprofit organizations. For example, this tension is manifest in an art museum between curators – the traditional guardians of art – and museum directors and entrepreneurial administrators who are responsible for the financial viability of the organization. Debates over the benefits or disadvantages of earned income activities seldom attend to evidence drawn from day-to-day operations, however. When we examine rare, successful cases of revenue generation, we see a rather different account in which local action has often emerged as necessity in response to unexpected conditions. These practical responses triggered new steps that eventually led to organizational changes, and connected with much ballyhooed larger macro trends, but were not prompted by them. In such cases the ethnomethodological insight that mixing practices prompts surprise and novelty can be applied to illuminate how new forms are generated.

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[9] Pressures on nonprofits to become more "business-like" are certainly not new. Indeed, such urging has been common throughout the sector's history (Hall, 2006). In the early twentieth century, religious charities were criticized by progressive "scientific" charity providers who urged the rationalization of services for the poor (Lubove, 1965; Mohr and Duquenne, 1997). In the 1970s and 1980s, leading management consultancies persuaded many large nonprofit organizations to develop strategic plans in order to "enhance" their operations (DiMaggio and Powell, 1983; Mintzberg, 1994; McKenna, 2006).

A notable case of successful nonprofit entrepreneurship is Minnesota Public Radio (MPR), one of the nation's largest and now richest public radio stations, known for award winning documentaries, innovative programming, and extraordinary success at revenue generation.[10] Between 1986 and 2000, MPR's for-profit ventures generated $175 million in earned income for the nonprofit station, including a $90 million contribution to its endowment (Phills and Chang, 2005). The origins of this success reveal how strongly organizational behavior is often constructed "on the fly", and necessity is the mother of entrepreneurship.

In the late 1970s and early 1980s, MPR developed a satirical show called *A Prairie Home Companion*. They offered the show to National Public Radio, but NPR declined, saying it wasn't a show that would have nationwide appeal. It appears that MPR was peeved by National Public Radio's decision to decline the show, which fueled the desire to make the show successful. By the early 80s, *A Prairie Home Companion* had generated a fairly healthy audience, and in 1981 Garrison Keillor, the show's popular host, offered listeners a free poster of his mythical sponsor, Powdermilk Biscuits. The fictitious sponsor was part of a regular ongoing gag on the show. To everyone's surprise, more than 50,000 listeners requested a copy of the poster. The station faced a $60,000 printing bill. In such circumstances of surprise, sensemaking efforts often spring into action. And so MPR continued the tradition of the fictitious sponsor by turning it into a commercial product. To avert financial disaster, MPR President William Kling recalled, 'We decided to print on the back of a poster an offer for other products that you could buy, like a Powdermilk Biscuit t-shirt. The idea worked. I think we netted off that poster, which was really our first catalog, $15,000 or $20,000.00," (William Kling, quoted in Phills and Chang, 2005, p. 65). "It instantly became clear that there were things like that you could do," (Kling, quoted in Khan, 1995).

To tap the popularity of *A Prairie Home Companion*, MPR created the Rivertown Trading Company, a mail order catalog business that sold mugs, t-shirts, novelties, and eventually clothing, jewelry and items related to Keillor's radio show. The new entity grew rapidly and by 1986 was reorganized as a separate for-profit subsidiary of MPR to remove any legitimacy and tax issues related to a nonprofit organization owning a highly profitable business. By 1994, Rivertown Trading distributed five catalogs, including Wireless, Signals, Seasons, Circa and Classica. It also ran the US Golf Association's catalog. Moreover, the product selection in its catalogs extended well beyond its original focus on gifts associated with the Keillor show.

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[10] The Center for Social Innovation at the Stanford Graduate School of Business and National Arts Strategies, a nonprofit consultancy for the arts, jointly developed the case on Minnesota Public Radio for classroom use. We have taught this case numerous times in MBA classes and executive education courses. James Phills and Ed Martenson were the primary contributors to the case's development. We draw on it for this extended example.

The origins of Minnesota Public Radio also had a similar "creation in the wild" flavor. Back in the 1960s, the president of a small Benedictine college in Minnesota asked a young college graduate, William Kling, to start a college radio station to honor the Benedictine tradition of providing artistic and cultural enrichment to their local communities. Kling viewed this opportunity in a simple manner: "I was doing what I really liked to do, building something that hadn't been done before."[11] He likened building the radio station to his childhood fascination with assembling ham radio sets and listening to distant stations.

In December 1995, MPR asked a handful of employees to assist Rivertown Trading on a voluntary basis to fulfill backlogged holiday orders. MPR employees were told that Rivertown would make donations to their favorite charities or contribute to a holiday party for those who volunteered. Nine employees pitched in, working two to three hours each, earning $350 each for their favorite charities. The expectation at MPR was that employees at the radio station and the catalog company should be from common backgrounds. Indeed, Kling, the general counsel and other key staff were executives at both companies. "We didn't want to hire people who worked for Lands End or Williams Sonoma", William Kling commented, "we wanted people who held the values of the nonprofit."[12] This decision also led to a firestorm of protest and controversy.

Politicians in Minnesota, newspaper reporters, and other public broadcasting officials were highly critical that employees of the nonprofit radio station also received compensation for their work with for-profit Rivertown Trading, and considerably higher wages to boot. Instead of seeing routines and organizational continuity, critics saw a pattern of insider dealing, conflict of interest, and public funding for an entrepreneurial effort, and raised concerns of unfair compensation and lack of transparency. It is not our task here to assess the merits of these criticisms. We note instead that Kling and colleagues' response was to stress that the interests of the radio station and the catalog company were indistinguishable. Kling emphasized that the $4 million in annual support given by Rivertown to MPR over two decades exceeded the budgets of the great majority of public radio stations in the U.S., and the $90 million endowment that the sale of Rivertown produced, secured MPR's future: "We could have done a lot of good things with MPR, but suffice to say the $175 million contribution made it possible to do things we would not have been able to otherwise." Rather than engage with or respond to critics, or assume the role of entrepreneurial champion, Kling focused on the daily activities of a radio broadcaster: more reporters, better signal coverage, more investigative journalism, and the ability to acquire struggling public radio stations in other parts of the country.

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[11] Interview with William Kling, by Ed Martenson of National Arts Strategies, 2004.
[12] Interview with William Kling by Ed Martenson, ibid.

MPR is not the only nonprofit that has generated earned income through new or alternative means in recent years. The chapters in Weisbrod (1998) chronicle an array of activities pursued by organizations as diverse as the Girl Scouts, zoos and acquaria, and art museums. As government support has declined or stagnated, nonprofits have increasingly turned to revenue generation. But such efforts are most likely to be successful - - financially, organizationally, and politically - - when they flow from existing operations. In the MPR context, success at the catalog business built upon Garrison Keillor's performances. While critics opined that "if Garrison Keillor ever gets laryngitis, Bill Kling is out of business!",[13] Kling commented, "My fear is that there are too many nonprofits seeking the holy grail…if it doesn't come naturally to you, you shouldn't do it."[14]

In response to growing public criticisms in the late 1990s over the large sums generated by the for-profit operation and the handsome financial rewards that Kling and colleagues reaped from the sale of the catalog business, Kling invoked a political justification for the activity: that entrepreneurial efforts with Riverside Trading were enhanced by the "imprimatur from the Reagan administration that it is OK to go out and think that way, indeed we encourage you to think this way."[15] Interestingly, however, none of the dozens of reports, newspaper columns, and magazine articles written about the situation in the 1980s or early 1990s employed a political mandate as a rationale. More than a decade after the fact, the signature of the Reagan era was "pulled down" to retrospectively explain the entrepreneurial effort.

The story of MPR is notable for both accomplishment and controversy. Few other nonprofits have been so successful at revenue generation or as agile in securing a sizeable endowment to guarantee a sustainable future. But rather than linking their efforts to broader trends at social entrepreneurship, MPR's leadership has responded modestly to critics, emphasizing how earned income activities were initially a response to an unexpected emergency. One might say that MPR learned to perform as entrepreneurs, rather than "strategize" about this performance. Moreover, actions that critics interpreted as inherently conflictual and questionable stemmed from an organizational practice that executives should oversee the actions of both the station and the company in order to ensure values-based continuity between them. This choice clearly reflected a managerial desire to routinize the efforts of both branches of the organization, and to engage in sensemaking around for-profit activities in service of nonprofit goals.

These two cases of university and nonprofit entrepreneurship illuminate how activities take form through micro-processes of development and institutionalization. Archival records, interviews, and vestiges of

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[13] Ron Russell, "Public Radio's Darth Vader invades L.A. by gobbling up a sleepy Pasadena college station." *New Times Los Angeles*, June 29, 2000.
[14] Interview with William Kling by Ed Martenson, ibid.
[15] Interview with William Kling by Ed Martenson, ibid.

organizational routines provide tools that reveal instances of practical reason and the attribution of meanings to such efforts. In the same manner as studies address the adoption and spread of organizational forms, these examples underscore how practices and their attendant meanings and identities develop and crystallize into a form that later becomes adopted.

The two cases we have used are admittedly unusual in several respects. They both involve organizations that eventually became highly successful at activities that were initially regarded as novel and unusual, even questionable. As the new practices and identities became institutionalized, the organizations were held up for scrutiny and debate, and then veneration and emulation (Colyvas and Powell, 2007). One advantage of studying these hallmark cases is there is a rich documentary trail that can be analyzed. Studies of how institutional practices are formed should recognize the tradeoffs that are entailed in the choice of cases. Nevertheless, we think that fine-grained attention to enterprising organizations can be instructive, as well as analysis of how activities do or do not spread to other venues and are interpreted at other sites.

Research Methods for Studying Micro Foundations

In this last section, we discuss various tools that researchers can use to study the emergence and sustainability of institutions. Instead of assuming that institutions reproduce themselves, we examine efforts that lead to institutional creation and maintenance, and ways of capturing these processes.

Language and vocabulary are a first step. These are the protocols that people use to engage in dialogue and achieve mutual understanding and inter-subjective awareness. The next step is to see what aspects of language become codified into formal measures of performance and accomplishment. These constructed definitions become metrics by which people evaluate one another. As these 'accounts' of performance or activity take hold, they become reified, that is, received and accepted as normal by their participants and adopted and emulated by others who were not a part of their initial creation. In this sense, local measures become 'natural.' Once natural, they become public, as the measures redefine and reinterpret history, and evolve into models that others aspire to, and are recognized as guideposts of accomplishment.

Consider how start-up companies as university spin-offs were once objects of contestation and debate, when the idea of universities engaging in commercial ventures was nascent and questionable (Colyvas, 2007a). Eventually, debate was resolved through the creation of formal conflict of interest forms and procedures. Today, the number of spin-off companies has become a metric by which universities are assessed for their contribution to local economic development. With earned income efforts by nonprofits, donors look less at the programs they fund and which audiences they reach, and more at the percentage of administrative costs that are allocated to program development.

Administrative overhead has become a key, but rather orthogonal, criteria for assessing the effectiveness of nonprofits. Such categories and metrics have become not only tools of evaluation, but the accounts by which organizational leaders justify their activities.

Following the insights of ethnomethodology, organizational record-keeping can provide a longitudinal conversation about how daily activities are rendered intelligible, affirming that organizational practices are comprehensible to others. Close examination of organizational archives and correspondence, as well as newer electronic forms such as websites, blogs and e-mail, afford the opportunity to witness organizational performance, and see social reproduction at the micro level, as daily accounts culminate into ongoing conversations and larger stories about organizational purposes and goals. One could, for example, listen to older broadcasts of *Prairie Home Companion* to assess how often references were made on the air to the burgeoning catalog business to discern how earned income efforts permeated programming.

A sensemaking approach directs us to follow organizational actions-- the efforts of individuals as they engage in the routines of regular operations. This naturalistic focus on work as skill offers insights into how social meanings become attached to routine conduct. Status expectations research alerts us to how standards of legitimacy in the broader society inform group practice. In contrast to other approaches, this line of work alerts us to look for how social categories and expectations in the wider environment are utilized at the local level.   Recall, for example, how in the early stages of academic entrepreneurship, faculty used both the norms of science and statements about the proper organization of their labs to communicate and interpret their experience with a novel activity.

Sensemaking is most salient when surprises happen or events are perceived to be dissonant with past experience (Weick, Sutcliffe, and Obstfeld, 2005). In such instances, individuals reach into their repertoire of experience to make a situation fit the immediate circumstances and allow them to resume their actions.[16] Weick suggests a repertoire of vocabularies that direct attention and shape action. "Words approximate the territory" and reflect resources for individuals to convert on-going cues into meaning by "edit[ing] continuity into discrete categories and observations into interpretations…" (Weick, 1995:107). Weick identifies both the content (as words) and resources (as frames) that vocabularies take. Individuals often draw on the vocabularies of professions and occupations to understand organizational actions, and cope with their consequences. At MPR, for example, the organization consistently used the language of radio broadcasting to explain their commercial success in

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[16] The guidepoints to sensemaking are found in "institutional constraints, organizational premises, plans, expectations, acceptable justifications, and traditions inherited from predecessors" (Weick et al, 2005:414). Furthermore, these guidepoints do not have to be accurate. What matters is that they are plausible from the point of view of enacted identities and context (Weick, 1995: 55-56).

the catalog business. In this respect, their discourse was performative, as it enacted and enhanced the commercial enterprise. Since sensemaking is primarily a retrospective process, individuals make sense of traditions by drawing on the language of predecessors and use narratives to account for sequence and experience. Language and communication are central, as they provide filters and constraints on what can be said, how expressions are categorized, and conclusions retained.

Members of organizations expend considerable effort at communication through codes, categories, and metaphors. Categories serve as boxes or bins that people, problems, and tools get assigned to. Bowker and Star (1999:38) recount a lovely story from sociologist Howard Becker who learned that airline reservations staff have a category called an "irate" to characterize disgruntled customers. When Becker was having a difficult interaction with a reservation clerk, he calmly said to the person, "I am an irate", and the operator responded by asking him "how did you know that word?" and immediately sped up his reservation. The creation, resilience, and transmission of categories offer a particularly useful window into organizational life as they not only reflect daily practice but connect organizations to the wider society as they render the mundane generalizable. Categories also contain either latent or explicit rules for action, as they invoke scripts that are associated with people or problems. Studying the formation of categories in organizations is an excellent way to connect micro-level processes with the larger social order.
Metaphors are another topic for examination, as they provide a means of shaping the understanding of a new experience by defining one domain in terms of another. Lakoff and Johnson (1980: 142) suggest that metaphors "… sanction actions, justify inferences, and help us set goals…" In doing so, metaphors offer meaning to daily activity, often retrospectively by locating the past in present beliefs, values, and daily tasks. The ubiquity of metaphors renders them taken-for-granted—in many respects invisible, yet very salient in terms of generating and transmitting meaning.

As one illustration, Colyvas (2007b) examined the language used to explain the recombinant DNA breakthrough, tracing the thematic content in newspaper articles and campus documents regarding breakthroughs in genetic engineering in the 1970's. The vocabulary of the time drew on the metaphors of factories, hazards, and contamination, which transcended both bacteria and university. She traced the application and flow of common language in both public media and private, university correspondence, following the metaphors of factory and production in formal announcements about the development of rDNA science. The factory image was first introduced in the popular press as a way to describe this basic research tool and explain its linkage to curing disease. Concerns over biohazards in the popular press, however, quickly amplified fears of contamination and images of "Frankenstein genes." Eventually, the production metaphor triumphed, capturing a theme of therapeutic and commercial promise. The same images quickly transposed into the university setting through marketing discussions over patenting and licensing the

breakthrough. Becoming a 'factory' or 'contaminating' the academy became exemplars for contesting commercial efforts at the university.

Viewed more abstractly, metaphor played a comparable role of reducing ambiguity and mitigating uncertainty in both settings. The application and normative tone of the same imagery, however, differed as factory language extolled science and technology, but simultaneously disparaged universities. By analyzing the two-way flow of metaphors in science and society, Colyvas highlighted the ways in which understandings are conveyed, developed, and transmitted through metaphor, and how those metaphors morph as they are transferred.

Such work suggests that when metaphors become generalized in their use, they render some features of social life "objective", but deflect attention to other aspects. As a result, metaphors shape perceptions of situations, problems, and analogues for solving them. One might regard institutionalization as making metaphor dead. If the surprise of metaphor is in its novel application, then language may be understood as a reef of 'dead' metaphors—that is, no longer unfamiliar, but routine and taken-for-granted.

The on-going relationship between meaning and action is another key area for inquiry. These core features of social life are not proxies for one another, but distinctive institutional elements to investigate. Attention to what individuals or organizations do, separately from what they mean by doing it, should be central to the study of micro-processes. Our earlier analysis of scientists' engagement in entrepreneurship offers an example. Colyvas (2007a) coded practices and premises separately for each invention over the first 12 years of the Stanford technology licensing program. She identified core areas in technology transfer where institutions and resources intersected, notably in the definitions of social and technical categories and in how revenues from inventions were disbursed. Through analysis of correspondence archives, she discerned how conventions developed and transformed as scientists were introduced to the emerging field of biotechnology. Laboratory-level models of technology transfer that were once coherent became fragmented. The convergence and harmonization of entrepreneurial logics was characterized by the re-attachment of practices from some labs to the meanings generated by other labs. She found that the modern interpretation of an incentive system for successful entrepreneurship was the outcome of the process of institutionalization, rather than an input to it. Thus, actions shape meaning as much as meaning shapes practices (Mohr, 2005). This recursive process has a dynamic of variation and change, much like the mutation of a virus that transforms as it spreads or comes into contact with others. The meaning behind patenting a scientific research finding is quite different today from 30 years ago, and what was once an exception for technological necessity or currency for a career transition out of academia has become a core component of an academic identity in the life sciences.

Tradition and stories offer insight into the retrospective aspects of sensemaking. Tradition necessarily invokes the vocabularies of predecessors, reinforcing patterns of action that have been reproduced or believed to have existed across generations. A notable feature of traditions is that they must become symbolic in order to persist or be transmitted. Stories draw on vocabularies of sequence and experience. Patterns such as beginning, middle, end, or situation, transformation, and situation often provide the basis for constructing narratives, drawing analogies and causal linkages, integrating what is present to what is absent, and what is known to what is conjecture. When pressed about the entrepreneurial success of MPR, William Kling turned to childhood memories of ham radios and the history of outreach of the Benedictine church, and not to a celebration of business acumen.

This discussion was offered as an entry into methods for studying processes of micro-institutionalization. As a next step, an analysis could distinguish between meanings and practices in cross-case comparisons over time, particularly in tracing institutional change as the product of micro-level efforts at enactment, interpretation, and compliance.

Summary

We have argued that institutional research can benefit from complementary attention to the micro order and the macro level. We urge more examination of the genesis of organizational practices and the resulting meanings that are attached to these routines. Such attention will not only provide a fuller account of institutionalization processes, but will also enable much clearer parsing of endogenous and exogenous influences. Our aim is to trace how efforts on the ground, so to speak, may prompt macro-level changes and responses. A multi-level view will offer more purchase to the question of why institutional practices and structures take the form they do. Rather than focus only on the diffusion or success of a form, we can better explain the nature of what becomes regarded as appropriate or venerable. The results of such inquiry will be more compelling and integrative analyses.

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