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POINT COUNTERPOINT

Category Stretching: Reorienting Research on Categories in Strategy, Entrepreneurship, and Organization Theory

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ABSTRACT We advocate for more tolerance in the manner we collectively address categories and categorization in our research. Drawing on the prototype view, organizational scholars have provided a 'disciplining' framework to explain how category membership shapes, impacts, and limits organizational success. By stretching the existing straightjacket of scholarship on categories, we point to other useful conceptualizations of categories – i.e. the causal-model and the goal-based approaches of categorization – and propose that depending on situational circumstances, and beyond a disciplining exercise, categories involve a cognitive test of congruence and a goal satisfying calculus. Unsettling the current consensus about categorical imperatives and market discipline, we suggest also that audiences may tolerate more often than previously thought organizations that blend, span, and stretch categories. We derive implications for research about multi-category membership and mediation in markets, and suggest ways in which work on the theme of categories in the strategy, entrepreneurship, and managerial cognition literatures can be enriched.

Keywords: categories, causal-model theory, goal-based approach, prototype

INTRODUCTION

Research on organization theory has recently shed light on how cognitive representations of economic actors structure markets into categories. Categories represent a meaningful consensus about some entities' features as shared by actors grouped together as an audience. Every move organizations make is in turn categorized: product launches, environmental policy, outsourcing, diversification, internationalization, to cite a few instances. Market categories play significant roles in economic life; they both simplify complex situations and drive beliefs and expectations about organizations' characteristics and behaviours. While the complexity of making comparisons between organizations

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increases in line with their numbers and features, categories enable actors to restrict their consideration sets to a smaller number of identifiable entities. Acting as lenses, categories enable producers to recognize competitors (Clark and Montgomery, 1999; Porac et al., 1995), consumers to compare offerings (Shrum, 1991), and critics to classify products and firms (Dimaggio, 1987). Different categories of producers will carry unequal obligations, expectations, and rewards, which will affect the range of strategic opportunities they face in the market.

As 'cognitive infrastructures' of markets (Schneiberg and Berk, 2010, p. 257), categories not only enable but also constrain organizations' actions. The term is derived from the original Greek word *katègorein* – which means to accuse publicly (Bourdieu, 1996, p. 297) – and most available research has considered categories as functioning according to a disciplining logic (Hannan, 2010). The dominant view of categories (Hannan et al., 2007) relies on family resemblances and prototypes (Rosch and Mervis, 1975). Features or elements that entities hold in common with one or more others constitute category prototypes (i.e. typical members) for audiences. Possessing more (or fewer) of these features or elements in common with the prototype makes it possible to categorize an entity more (or less) securely in that category. Audience members use categories and classification systems to evaluate and assign an identity to firms (Hsu and Hannan, 2005; Ruef and Patterson, 2009), and to make distinctions between legitimate and illegitimate entities (Jensen, 2010; Lamont and Molnar, 2002). Because of their cognitive limitations, audiences navigate better across markets and social worlds when categories are clearly marked and unambiguous: violating the assumptions identified with a simple prototype (by for instance belonging concurrently to multiple categories) can lead organizations to experience lower outcomes in terms of audience appeal and performance, compared to 'purer' players. Hence, the prototypical view sees market actors as imposing categorical imperatives on firms (Hannan, 2010; Zuckerman, 1999).

In this article, we aim to unsettle and redirect the existing literature on categories, in part by pointing to how the use of categories as constraining interfaces between organizations and their audiences by past and current research efforts limits our future understanding of the processes and effects of categorization. Our argument for category stretching, i.e. rethinking and extending work on categories, unfolds along two lines. First, categories are not just based on prototypes and we refer to two established conceptualizations of categories in cognitive psychology that have emerged since the work of Rosch and Mervis (Murphy, 2002). The causal-model approach suggests that not all features that determine category membership have the same valence and causal power. Prior knowledge and expertise of audiences contribute to categorization, uniting features according to cause–effect chains, so that audiences' evaluative schemas and categories can be structured along various causal paths and models. Another stream of cognitive science – the goal-based approach – holds that the process of categorization is contextual, and driven by the goals that actors pursue, so that producers and audiences create *ad hoc* categories to support the aim of achieving a specific goal. Audiences have different goals, so they create different categories whose members lack feature similarity but fulfil the same end. Following these approaches, car manufacturers can be grouped together in different categories, based on a class of vehicles (prototypical view), on whether a firm produces both engines and cars (so the causal-model view would dictate

an automaker is an automaker *because* its products contain an in-house engine), or on whether their products meet zero emission targets (goal-based approach). Our first intervention in relation to established work is therefore to stretch existing work to other perspectives on categorization beyond the prototypical view.

If categories are based on causal models or goal-setting (as just illustrated), category membership is more than a checklist of features (Barsalou and Hale, 1993), so the benefits associated with categorical purity (i.e. respecting the prototype) should be reconsidered. From the causal-model perspective, categorical purity may be less valuable than possessing fewer features as long as an entity includes features with significant causal implications. From the goal-based view, both producers and audiences may see multiple category membership as being more sensible than simpler, 'purer' categorical membership. Our second intention with 'stretching' categories is therefore to propose a different way of thinking about market discipline and multi-category membership. Drawing on the causal-model and goal-based approaches, we reason that audiences may accept more hybrid organizations that span categories than currently acknowledged.

Rather than study a strict categorical discipline, we aim to address a bigger picture view – of which and how knowledge and goals help constitute categories in markets. In turn, we hope that with our arguments we reinvigorate the somewhat stale treatment of categories in organizational and ecological theory. Bringing in a distinct dynamic dimension, new approaches of categorization enrich our views on multi-category membership in markets and provide the potential for stronger interconnections with research on entrepreneurship, managerial cognition, and strategy.

THE PROTOTYPE VIEW OF ORGANIZATIONAL CATEGORIES

Audiences agree on representing entities that share similar attributes under common labels. They form and use categories to make sense of a perceived reality and to simplify their decision making. In the context of markets and organizations, categories provide a cognitive infrastructure that enables evaluations of organizations and their products, drives expectations, and leads to material and symbolic exchanges. For instance, entering a public hospital as a patient, you expect some treatments – from administrative to medical – to differ from those you experience when entering through a private clinic's door. Categories differ from frames, which are shared cognitive schemes more actively used to represent and relate events, or from scripts which encompass dispositional and contextual modes of acting. Categories more generally act as resources for action and coordination among economic actors who share cognitive models.

The Route to Prototypes

Under Aristotle's classic theory, categories are defined by a set of necessary and sufficient features. Items belong to a category if they exhibit those features – any that do not exhibit them are not category members. Thus, the Oxford English Dictionary defines a chair as 'a separate seat for one person, typically with a back and four legs' – so any piece of furniture that fits squarely within this definition belongs to the category 'chair', but types

of chair that present distinctive characteristics (e.g. deckchairs, wheelchairs, three legged chairs, etc.) are not category members – even though we would recognize them as variants of the concept of 'chair'. Quine (1951, p. 24) criticized this classic view by arguing that this definition-based process is both too constraining and inaccurate. As an example, he took the concept 'bachelor', whose features are male and unmarried, so that its definition is 'an unmarried male'. Nevertheless, Quine maintained that these two statements are neither synonymous nor interchangeable. Male children are not considered to be bachelors; nor are men who have been married but are no longer. So the category's definition has to be amended to define bachelors as adult males who have never been married. In the end, a long set of disjunctive rules is not even sufficient to exclude all the non-bachelors (e.g. priests or gay men) who fit within the original definition. Quine used this example to demonstrate that we should always be aware that the categorization of an item may be incomplete and/or imperfect. It is impossible to form sharp and salient mental categories using common definitions.

Such criticism led to the emergence of an alternative view – the prototype theory (Rosch and Mervis, 1975) – which is based on the notion of resemblances between objects rather than them having identical features. The prototype view underpins the behavioural assumptions behind most extant research on 'organizations and categorization'. Drawing on Wittgenstein's (1953) principle of family resemblance, Rosch (1975) conducted several experiments demonstrating that some exemplars (e.g. robins as a member of the category 'bird') are treated as 'better' members of a category, that is, as being more *typical*, more representative, of that category, than others (e.g. penguins or eagles). She argues that, when categorizing an object, people rely less on abstract category definitions than on the comparison between a given object and one they deem to best represent a category: a prototype. Prototypes are seen as 'pure' types that possess all the coding clues of one – and only one – category, and thus enable an audience to define categories and differentiate them easily from one another. Audience members thus prefer objects that are highly prototypical because they fit squarely within their background cognitive expectations.

While animals, objects, or organizations are classified as members of a category (e.g. 'birds', 'chairs', or 'e-retailers') by comparing them to their prototype, every feature of a prototype is not equally significant. Indeed, in most prototype-based research (Hampton, 1979; Rosch, 1973; Rosch et al., 1976), the features of a prototype are weighted in terms of both their salience to their category and the frequency with which they occur in category members. These mechanisms create what are called *typicality effects*. Thus, items which show many salient similarities with the prototype will be widely recognized as belonging to the category in question. But similarity to *all* a prototype's features are not necessarily required for category membership – in fact similarity to only a few typical features may be sufficient to assure membership, in particular if they are among the prototype's most salient features. But such a member will be less typical of the category than others, and its affiliation to that category less taken-for-granted. For example, a salient feature of the prototype defining the category 'fruit' could be defined as 'a sweet taste', which explains why it is easier to classify a banana as a fruit than a tomato, and why a banana is considered a more typical fruit than a tomato.

Categorical Imperatives

Recent approaches to categorization in the context of organization theory, anchored in prototype theory, tend to make the driving principles contained in categories exogenous to the organizations (Hsu and Hannan, 2005, p. 477). Zuckerman (1999) evokes a categorical imperative, indicating that penalties ensue from not respecting market order principles derived from a prototypical view of firms as pure players. According to this approach, audiences – the set of actors that interact with organizations and use categories – respond better to purer category members, i.e. those more similar to the prototype. For instance, where firms differentiate their activities too much, their offers lack clarity and attractiveness, and so are reviewed less often and less positively by market analysts than those that are more focused. Analysts as an audience need firms and their offerings to stay within clear categories and not encroach on others. Zuckerman et al. (2003) also emphasize the benefits of typecasting in movie actors' labour markets: actors who stay closer to a given genre increase their chances of being cast in future roles.

Hannan et al. (2007) define categories as an audience's collective agreement that members of a set belong to it based on the extent to which they share similarities. For this vein of research – which has produced a significant amount of empirical results – a category is 'a class about whose meaning an audience segment has reached a high level of intentional semantic consensus' (Hannan et al., 2007, p. 69). Meanings are materialized by codes and the similar features category members share. These social codes 'specify the properties that an entity can legitimately possess' (Polos et al., 2002, p. 85) and so guide behaviours in recognizable ways by developing audiences' expectations – indeed, 'the formation of consensus among audiences on which label to apply to sets of producers or offers is the seed of categorization systems' (Negro et al., 2010b, p. 14). At the core of this approach lies the idea that a high degree of similarity with a categorical prototype assists organizations in their founding, legitimacy, and effectiveness (Hannan et al., 2007; Hsu et al., 2009). Categories contrast with each other, and are separated (to greater or lesser extents) by fairly 'thick' boundaries. So collective identities develop around common dimensions, and audience recognition defines, or sets, which traits are common to which categorical identity and organize their expectations and evaluations of how well members of the set perform along these dimensions. In general therefore, audiences can be said to recognize categories' characteristics and boundaries automatically and thus make their categorical attributions consistently.

Based on these ideas, the organizational literature on categorization no longer considers an economic market as a continuous and indistinct space – but rather as one that is segmented into different categories defined by clear prototypes and between which there are varying degrees of contrast. Organizations are affiliated with or belong to some producer categories, and their production fit (or not) into identified product categories and (on average) audiences give greater support to crisp identities (i.e. to 'purer' category members). High contrast between categories (Negro et al., 2010a) and low category leniency (Pontikes, 2009) both lead to producers in each category enjoying greater appeal because identity and boundary categories are clear and unambiguous. Such clarity about category meanings increases the value of category members, so that the audience can

identify such organizations easily and will not hesitate to engage in transactions with them (Kovacs and Hannan, 2010).

In summary, Rosch and Mervis' studies provided evidence for their family resemblance hypothesis that typical members have features common in their category. Applied to organization theory, an organization will therefore be considered as more typical if it is affiliated with fewer categories. More focused organizations are closer to their categorical prototype (Hsu, 2006). This finding carries the underlying assumptions that audiences agree uniformly about what typical features are, and that their category perceptions are rather fixed in time. Moreover, in most current research, scholars assume that the categories as perceived by producers and those used by any given audience – buyers, critics, or secondary stakeholders – align perfectly.

STRETCH 1. CATEGORIZING CATEGORIES: CAUSAL STRUCTURE AND GOAL

Yet theoretical arguments and empirical evidence exist that audiences' perceptions vary and categorical boundaries move over time. Audiences' prior knowledge and expertise in determining what a category is and is not, vary as well. As a classic example illustrates, you may have a list of features that describe an aircraft (wings, engines, window types, and so forth) but may also complement this list with prior experience and knowledge such as having seen, being seated in, or having flown aircraft. You will then be able to categorize a new vehicle which possesses certain expected features as a member of the 'aircraft' category, basing your judgment not just on its common features but on your experience when seeing it, being seated in it, or flying it. Furthermore, as audiences continually reframe extant market categories based on new knowledge and generate new boundaries across them, organizational prototypes lose density and tend to evanesce. Rao et al. (2005) describe codes that characterize and differentiate classical from nouvelle cuisine: culinary rhetoric, cooking rules, chef role, ingredients, menu organization. But, over time, owing to chefs innovating and borrowing across categories, this boundary eroded, and penalties and rewards were no longer so closely related to categorical transgression (Durand et al., 2007). In addition, there is no reason to assume any perfect symmetry of categories between candidates and audiences. Producers can manipulate category meaning and boundaries (Kennedy et al., 2010; Negro et al., 2011) according to their interests and where they think audiences' focus might be, or might shift to. Audience members can have different levels of prior knowledge or goals that drive their perceptions in conflicting ways. This heterogeneity in cognitive perceptions may cause a mismatch between producers' categories and those used by different audiences, i.e. buyers, critics, or the wider public.

Organization scholars need to account for how audiences' categorization processes may differ – and differ from producers' – on markets and how that affects their expectations about organizations. While the cognitive science literature has itself not yet reached full agreement about a general model of categorization (e.g. Murphy, 2002), it nonetheless provides direction that can prove insightful for organizational research. Drawing on fundamental insights from Ahn (1998), Rehder (2003a, 2003b), and Barsalou (1983, 1991), we revisit the idea that categorizing is a mechanical cognitive

Table I. Three different views of the categorization process

	Prototype theory (Rosch and Mervis)	*Causal-model theory (Rehder)*	*Goal-derived categories (Barsalou)*
Approach	Similarity-based view.	Knowledge-based view.	Goal-based view.
Information processing	From the object's features to the audience.	From the audience (knowledge) to the object's features.	From the audience (ideal) to the object's features.
Mechanism	Object's features contain information and act as a stimulus. Audience members respond by comparing the features to an abstract prototype.	Audiences represent categories through cause–effect associations. An object belongs to a category when it possesses the features with more causal power.	Audience members define a specific goal. Object's features that fulfil this end will favour object's association with the goal-derived category.
Category membership	Objects that look like the prototype which defines the category.	Objects that cohere with causal models of audiences.	Objects that support the achievement of a common goal.
Example	If an animal has a beak, feathers and wings, it is a bird. Hence, robins, penguins, and chickens are birds.	Birds can fly *because* they have wings. Hence robins are 'better' birds than chickens or than penguins.	Birds are edible. Hence, chickens are 'better' birds than penguins or than robins.
Applications to organization	For an organization or a firm, being prototypical brings about advantages in terms of acceptability, competence, and comprehensibility.	Organizations need not correspond to all items used to categorize them but only to the most consequential for the audiences that categorize them.	Audiences pursue objectives in assessing organizations. For an organization, categorical membership depends on whether it fulfils these objectives.
Limits	Interchangeable audience members who always react in the same way to the same stimulus.	What theory of learning supports the prior knowledge implied by the cause–effects associations used by audiences?	Instability of categories. Can it explain the stability of market structures?

process, that clear prototypes exist for complex entities like organizations, and that affiliation to a category can be considered as being independent of which audiences are involved. Prefiguring the discussion that follows, Table I displays the differences between the current dominant view of organizational categorization (based on prototypes), and two complementary views, the causal-model and goal-based approaches.

Causal-Model Approach

Breaking with the core tenet underpinning the prototypical view of categories – similarity – several authors have developed the causal-model theory as an alternative approach of

the categorization process (Ahn, 1999; Rehder, 2003a, 2003b; Rehder and Hastie, 2001). They point to an audience-based theoretic model, i.e. a causal elaboration of linkages between features that define a category (Rehder, 2003a, p. 710). A causal model introduces a hierarchy among features, in that one feature causes another, which can be used when categorizing entities. For instance, for people in general, birds have wings and birds fly. The causal association between the feature 'wings' and the definitional trait 'fly', implies that – among many different features that could characterize birds (beaks, colours, etc.) – birds fly *because* they have wings. As a result, the birds which have then smaller, or vestigial wings (like chicken or penguins) will be less likely to be classified as members of the 'bird' category than (for instance) robins.

Thus an entity can be defined as more or less a plausible member of a category depending on how much it displays relevant features and their causally-linked effects ('wings' and 'fly'). Relative to prototype-based theory, possession of a feature W (for wings) is insufficient to categorize entities, and is not related to a feature's salience or frequency (chicken, penguins, and robins all have wings). However, recognition that W is a cause of an effect F (fly) helps audiences characterize how important the W feature is in the categorization process. Hence, the weight or importance of a feature is no longer based on its similarity to a prototype ('possessing the frequently observed feature W') but on its causal power to account for a function (F) which is a recognizable characteristic of the category. This causal power depends on causal knowledge and world theories peculiar to each audience (Murphy and Medin, 1985; Rehder and Hastie, 2001) – and could be (at least partly) misplaced. For instance, in order to fly, birds also need feathers of a particular sort in their tails – but while this feature is physically important for a bird's flight, most people would not report it as being causally important for categorizing birds.

Depending on the various relationships implied by audiences' causal models, several features interact to determine what the category is: 'A key assumption of causal-model theory is that the presence of causal knowledge changes one's expectations regarding not only individual features, but also the entire combination of features that a category member is likely to display' (Rehder, 2003a, p. 734). As such, audience members can be seen to have an active role in categorizing markets: depending on their world theory (Murphy and Medin, 1985) and expertise (Cowley and Mitchell, 2003), they may focus their attention on diverse dimensions and disagree on their categorical assessments. So, depending on how their model of social reality is formed and informed, different audiences can categorize the same organization differently. For instance, two actors with different knowledge about watches will drastically diverge about their categorization of watchmakers. For an expert who considers watches as pieces of art, a watchmaker is a watchmaker *because* its products feature 'mechanical movement' or 'in-house calibre'. For a non-expert, a watchmaker is a watchmaker *because* it produces devices worn on the wrist that indicate time. Thus, categories enacted by the expert (e.g. watches with 'quartz movement', 'mechanical movement', or 'self-winding movement') will greatly diverge from those of the non-expert (e.g. watches with 'digital display' or 'analogue display').

Causal knowledge therefore determines the categorical membership of organizations and products, and allows one to understand divergent categorizations that audience members make. Furthermore, Murphy and Medin (1985) and Rehder (2003a) have suggested that audience's world theories and their causal models matter for affiliation

both within but also across categories. Category structures – and especially inter-category relationships – depend on prior knowledge and experience of audiences. In other words, to understand an audience's categorization mechanisms, we have to take into account not only a particular category, but also their whole system of categories. Therefore, the structure and coherence of a category comes both from *within* the category itself – its features and the causally-ordered relations between them – but also from *outside* the category, in the general world of audience knowledge in which the category is embedded. Thus category membership is determined less by overall similarity to a prototype than by adherence to causal knowledge proper to audiences' worldviews and theories (Rehder, 2003a).

The causal-model approach understands categories as causal models that are not entirely fixed; they contain structures of relationships between features which can be updated, although – since causality is directional – not fully reversed (Pearl, 2000). Understanding categorization processes implies deconstructing these causal mechanisms that tie such features together, as well as relating the changes in categories to both audiences' expertise levels and the revisions in their world theories, i.e. the generation of new associations in their causal models.

Goal-Based Approach

An even more radical contestation of categories as prototype-based classifications is to suggest that audiences' apprehensions of the world vary from time to time. Audiences constantly form new categories depending on specific goals they may be pursuing, and group together items from different domains of knowledge and even from different time periods. Barsalou (1983) suggests that individuals elaborate *ad hoc* categories according to their needs and goals, creating goal-derived categories to assist them in understanding and handling large amounts of novel information in the way most appropriate to their goal. Examples of such *ad hoc* categories might include 'things to sell at a garage sale' (Barsalou, 1983, p. 1) or 'things to stand on to change a light bulb' (Barsalou, 1999, p. 602). In this latter example, diverse objects (a chair, a stool, a table, a ladder, a sofa, etc.) are put together in the same category not because they have a high family resemblance or share prototype's features – but are clustered because they can contribute to achievement of the same goal: changing a light bulb.

Goal-derived categories specify and instantiate realities: people may combine items, relevant features, contextual elements, and personal knowledge to form novel categories. Thus, an actor engaged in an action (purchasing, investing, boycotting, etc.) will define *ad hoc* categories solely in terms of how their members contribute towards fulfilling some desired end. Family resemblance is of little interest, nor do items' (or organizations') properties count as much as in the prototype theory: regardless of any similarities between them, audiences categorize them on the basis of their inferences about their suitability to their specific needs and goals.

In this sense, beyond the simple matching of features proposed by prototypes, Ratneshwar et al. (2001) distinguish between two types of goal salience that impact mental representations and category boundaries: personal goals and situational goals. In their work, objects are clustered together to the extent that they are appropriate for

fulfilling both goals. The authors offer the example of a personal goal – 'eating healthy foods' (pooling together apple, orange, granola bar, fruit yogurt, etc.) – set against the situational context of 'driving a car'. This configuration leads to the situational goal 'convenience while driving', which excludes from the final category (which we might call 'eating healthily while driving') some members of the 'healthy foods' group products like orange or fruit yogurt, which are impossible to eat while driving.

Hence, the focus of audience representation has a significant influence on category membership: products and organizations appear to be clustered around an ideal rather than a set of common features. For Barsalou (1985) the most typical items of goal-derived categories are the ones that are closest to the ideal – which, of course, depends on the goal itself. According to this view, category members are items that most suit the ideal, even if they differ greatly from each other – category structure is driven more by goal pursuit than by family resemblance. Unlike the prototype model – which presupposes that items exhibit objective features – Barsalou insists that the emergence of an *ad hoc* category involves prior intentions. Audiences' mental representations of categories follow a top-down logic: audience members first define a goal, and only afterwards do they observe and organize the reality into categories of objects likely to help them reach their goal. Categorization of firms would accordingly be more accurately inferred from audiences' goal-seeking than from any similarity in their features. For example, in the field of corporate law, clients expecting full-service representation may create *ad hoc* categories like 'legal advice to achieve the merger of two firms' or 'legal advice on an acquisition abroad', blending many different types of law service that more classical categorizations might keep apart. Rather than being fixed and widely-agreed, *ad hoc* categories are temporary categories constructed around specific goals in a given context, rather than permanently stored representations of common features (Barsalou, 1983, 1991). Compared to clients' self-categorizations induced by their particular needs, producers' well-established distinctions may be inadequate to address the phenomenon of category-blending.

Against this backdrop, we call for category stretching in how we research category issues. Categories are no longer fixed but vary according to the ways audiences, whether expert or novice, assemble an entity's observable features causally and define their goals in the very act of consuming, purchasing, experiencing, etc. We need to take stock of a decade of research that conceives categories as disciplinary devices and expand it radically (Schneiberg and Berk, 2010, p. 255). This involves dealing with notions of categorical fuzziness and purity, as the core of the debate, and which has significant implications for the study of organizations.

STRETCH 2. ACCEPTING HYBRID ORGANIZATIONS

Differentiating firms on the basis of their category has become a central issue in organization theory, strategy, and economic sociology. The literature on categorization has overemphasized the stability of categories and the inertia of classificatory systems, overlooking category dynamics and their development and evolution. Within work on category spanning, findings have shown that straddling multiple categories leads to blurred identities and lower audience evaluations. A consensus has been built around the idea

that organizations that do not fall into a single category suffer economic and social disadvantages as compared to full-fledged category members (Hannan, 2010). But multiple category members still exist, and new producers even penetrate markets with hybrid offerings: if such entities were always devaluated or illegitimate, there would be no room for socio-cultural innovation in markets and for firm strategizing. Rather, firms would all gather around their respective prototypes and seek similarity and conformance, and all offers would eventually tend to be identical. So we must enrich our current understanding by reflecting on the novel ideas thrown up by the causal-model and goal-based approaches to categorization if we are to take the complexity of audience categorization into account, and in turn enlarge our knowledge of category dynamics.

Categorical Discipline Explained

To date, empirical studies have established that entities with multiple category affiliations fare worse on the market – in terms of social evaluation and audience appeal – than do full members of crisp categories. Three main reasons explain the penalties hybrid entities attract. First, category spanners align less well with audience expectations than do category specialists (Hsu et al., 2009). Producers affiliated to only one category are more likely to have a clear and meaningful identity, so they are easier for audiences and critics to evaluate, and thus gain superior evaluations. Hence (according to the prototypical view), a film that spans multiple movie industry genres cannot fit neatly into any one of them, and will therefore be less appealing to audiences (Hsu, 2006). Hybrid firms in a market category cause the appeal of the whole category to decrease (Negro et al., 2010a) – they blur the meaning and boundaries of the category and then audiences generally react negatively to such reductions in clarity. Producers have little interest in belonging to fuzzy categories, where confusion and ambiguity make comparisons between offerings harder.

Second, hybrid organizations develop less expertise and capabilities than pure players, and risk over-diversifying their resources (Hannan et al., 2003). Specialized learning from experience in a unique category can increase the appeal of offerings (Negro et al., 2010a). Looking again at the film industry, Zuckerman et al. (2003) have demonstrated that typecast movie actors are more likely to obtain role offers than those who have played parts ranging across multiple genres. Indeed, it is easier for actors with focused identities to acquire highly specialized skills and especially to signal them to the market. In the same vein, analyzing a sample of auctions distributed across 23 different categories, Hsu et al. (2009) observed that sellers engaged in more than one category were less likely to use acronyms and quality indicators (which normally increase the likelihood of achieving sales) as they tend to choose wide and unspecified terms to try to target several audiences attached to different categories. As a result, they do not give the quality signals needed to appeal to the specific audiences of each category and so are less likely to sell their items.

Third, the complex identities of multiple category members overwhelm the monitoring capacities of critics, who respond by paying them less attention (Zuckerman, 1999, 2000) or by downgrading their ratings (Rao et al., 2005). Critics' prevailing cognitive schemas are not adapted to assess category bridgers and they therefore penalize them: the more a firm spans category boundaries, the more negative an evaluation it earns.

Furthermore, there is inter-dependence in belonging partly to one category and partly to another. The better an entity fits the audience's schemas for one category, the less likely it is that it will fit another category. Zuckerman (1999) showed that the stock price of unfocused American firms depreciates as the coverage mismatch between a firm's category affiliations and analysts' industry specialization increases, causing confusion over the firm's identity and in turn lowering its appeal.

To take a classic example, in the movie industry, producers and critics are used to classify movies in institutional prototypical categories: 'comedy', 'horror', 'drama', 'thriller', 'western', etc. The prototypical view on hybridity would suggest that a movie spanning several categories will fare less well than 'genre-typical' movies, since it will be seen as not as good in any one, the director will be suspected as lacking mastery in all of the genres, and audiences will have difficulty assessing the movie as they prefer more easily recognizable products. But our category stretching approach would suggest that audiences can adopt a different appraisal of inter-category relationships and complementarity according to what they actually think a movie is, i.e. following their causal theory of a movie: 'movie experience implies a movie theatre', 'technology content of movies sets expectations for special effects', 'financial independence of producers cause movies to be in sync with real life issues' and so forth, and what their goals are when consuming movies: 'movies lasting less than two hours', 'movies with Brad Pitt', 'Woody Allen's movies' and so forth.

Causal-Model View of Categories as a Justification for Hybridity

Our departure from current theorizing about multiple category membership takes its initial insights from the causal-model view which has dramatic consequences for our current conception of hybridity versus purity, i.e. where an organization partly belongs to more than one category versus where it is a full grade member of a single category. Following logically the mainstream view of categories based on correlative assessments, each producer or product is a member of one category. The more similarities it has to the category's prototype, the more secure its category membership, whereas fuzzy category membership brings negative consequences as explained in the above section.

However, fuzzy membership of more than one category may be consistent or inconsistent from an audience's (and producer's) viewpoint. Taking the lens of causal-model categories, the features and cues that audiences – and researchers – use to include or exclude entities as category members could be related in a hierarchical and/or directional manner. Assessments of the presence/absence of correlative features requires complementary analyses, since it is not just correlation that explains categorization but also actors' causal models. Turning to causal-modelling implies accounting for the directionality of associations and the probabilistic rather than the deterministic presence of salient features (e.g. Durand and Vaara, 2009; Pearl, 2000). For instance, a firm may persist with unrelated activities because their main clients associate them with these activities – a car manufacturer may feel obliged to continue producing engines or running a team in major competitions so as to go on being considered a real producer of cars – or retain them in their domestic portfolios to avoid being politically penalized in local markets for divesting them (e.g. Renault or Peugeot-Citroën in France). This

argument echoes 'decoupling' as a way of matching rationalized myths about what a specific organization should do to be seen as legitimate (Meyer and Rowan, 1977).

A direct corollary suggests that coherence between the categories in which a hybrid organization is engaged matters as much or maybe more than its membership grade in each category (Gill and Dube, 2007; Meyers-Levy and Tybout, 1989; Ruef and Patterson, 2009). From a different perspective, this could explain the importance of the contrast in current research on categories, as having both direct and moderating effects (Kovacs and Hannan, 2010). Indeed, for a given audience, cognitive compatibility across categories to which hybrid firms are affiliated may vary. And – depending on their world theories – audiences may find some instances of category spanning sensible and reject others. They are likely to pigeonhole or not a hybrid organization according to whether its combination of categories coheres with their own causal models (Rehder, 2003b, p. 1154). For instance, in the legal services market, a law firm engaged in both 'bankruptcy' and 'intellectual property' practice areas appears less coherent than another engaged in 'corporate' and 'banking' activities: the latter fits better into the kind of causal schemas corporate audiences might expect, since banking specialists can arrange for colleagues from their corporate department to help a client firm handle an acquisition – but there is no such immediate or congruent association between intellectual property and bankruptcy.

These arguments amount to overturning the current grievances against categorical spanners. As Rehder (2003b, p. 1155) observes, 'category membership is not just a matter of observing a category's most probable features, but also the most probable configuration of those features', both in itself and in relation to other configurations. Hence, it is not the fact of spanning categories *per se* (i.e. increasing the total cognitive distance relative to established prototypes) that might matter to audiences, but their capacity to make coherent sense of the categorical combinations they observe. Depending on their causal models, audiences would expect some sorts of spanning to be more likely to occur than others. If audiences can assemble the causal associations entailed by multiple categories (e.g. corporate law/banking or auto producer/auto retailer/insurer) into a coherent model, organizations that bridge categories could be at an advantage relative to purists from each independent category. Whereas over-diversification generally leads to suboptimal outcomes, some category combinations are likely to offer certain organization advantages in the eyes of some audiences (again, according to which causal model(s) they use). So the disciplinary role played by audiences and critics must be complemented by a mediating role, as exemplified in Rao et al. (2005), where the *Guide Michelin* is seen as validating innovations promoted by elite chefs *ex post* – so acting as an engine of categorical redefinition and cultural evolution that 'makes sense'.

In sum, the three major causes for spanners being devaluated (unmet expectations, capability disadvantage, and ambiguity creation) must be adjusted, and understood as being conditional on audiences' knowledge and the causal models they utilize in their categorization processes.

Goal-Based Approach and Fuzziness

Adopting the goal-oriented lens on categories, the effects we could expect might be even more dramatic. The critique in the previous section respects most preexisting theoretical

elaborations and suggests amendments to validate whether intrinsic hierarchies do or do not exist within categories, and among their constituent features. Both prototype-based and causal-model views agree that there are identifiable categories and organizations that span categories or specialize in one only – but disagree on the reasons for negative consequences of categorical spanning. However, the goal-based view of categories relaxes the assumption that audiences or critics would use a finite set of categories or candidates before determining partial or full membership. Depending on the type of audience members, but more importantly on their goals, the potential candidates for categorization would vary dramatically (Barsalou, 1991).

Pontikes (2009) takes a step in this direction when she argues that certain audiences may actually favour organizations that span lenient categories – i.e. 'those that do not impose strong constraints on members and have an ambiguous social meaning' (Pontikes, 2009, p. 2). For instance, she finds that venture capitalists are more attracted to invest in organizations in high leniency categories because they are more flexible and so can meet a wide range of expectations. Producers affiliated to multiple categories are more likely to catch the attention of an audience than 'pure' single-category members, and so would be more likely to suit audiences' broad expectations. This perspective calls for more than just amending the current consensus about multi-category members suffering negative consequences. Depending on audience goals, multi-membership could be more beneficial than has currently been thought or found.

Introducing purposefulness (goal-setting) and sense-making into audiences' perceptions fundamentally changes our theorizing about organizations and categories. Considering audiences as goal-oriented is likely to reverse our understandings about the relationship between organizational similarity to a prototype and any ensuing positive outcomes. Driven by multiple goals, audiences could evaluate hybrid organizations positively if they fit squarely with their specific needs. Thus, an audience creates an *ad hoc* category for a specific goal (e.g. profit maximization, rewarding novelty, being good, etc.), and in so doing redesigns stable categories and established prototypes – redefinition, subsumption and recombination are all possible courses (Kennedy et al., 2010) depending on what the audience is looking for. Even in market categories with high typicality effects, audience members' cognitive attention is driven by specific intentions. Audience members create *ad hoc* categories that recombine producers, so hybrid producers may be at an advantage over prototypical firms when the goal is complex – for instance, reaching a profit threshold while maintaining a neutral environmental footprint. Audience members can also select producers that satisfy their needs irrespective of their other categorical memberships; for instance, all firms that do not outsource in regions where child labour is accepted. In both cases, multiple category members are classified differently by audiences. Hybrid producers can benefit from their positions across disparate categories to catch distinct audiences' attention and meet broader audiences' complex expectations. Multiple audiences with wider ranges of intentions will find hybrid organizations more visible and identifiable than single category members (Scott and Lane, 2000), while multi-category members could appeal to more audiences with varied interests and thus gain more positive evaluations.

The second part of our call for category stretching illustrates how category spanning represents a case where current knowledge – using the prototype-based view of

categories – needs amending. Taking audiences' causal models into account enables us to modify our expectations about the penalties borne by multi-category members according to the cognitive infrastructure of their audiences. Depending on how features are interrelated and the directionality of their relationships, logically situations must exist where multi-category membership makes sense, and where the typical reasons behind penalties lose power. One step forward is that the inclusion of *ad hoc* categories reshuffles the prototype-similarity view of categories. Whereas the dominant perspective does not distinguish between different types of multiple category affiliations, the goal-based view of categories suggests that all category combinations are not necessarily equal. Furthermore, audiences' attention, perception, and judgment will vary depending on how goal-based the categorization is and the complexity of the goal (e.g. being both profitable *and* green). In this case, category spanners may satisfy the ends pursued by multiple audiences and be evaluated more highly than specialists huddled around a prototype. Taking categorization processes seriously, and as distinct from similarity-based judgments, can alter our expectations about the consequences of multi-category membership. Because producers stretch categories, we need to stretch our conceptions of categories and include finer-grained description of category spanners. Hybrids could be seen as advantageous when category combinations are more sensible and cohere better with audiences' evaluative schemas, and may even be superior to typical specialists when considering multiple audiences' purposefulness.

IMPLICATIONS FOR RESEARCH

To tie this section to the previous one, we start with a non-exhaustive review of potential contributions and lessons for future research in the areas of categorical fuzziness and operationalizing multi-category membership. We then present important consequences for research in strategic management and managerial cognition, and close by stressing, at a more theoretical level, the fruitful reorientation in research that may follow from new approaches to categorization.

Categorical Fuzziness and Operationalization of Multi-Category Members

As noted earlier, in the prototypical view on categories, multi-category members span across identifiable categories leading to categorical fuzziness and misattributed properties and expectations on the part of audiences. Whereas, from the prototypical categorization perspective, fuzziness results from multi-category membership, the causal-model approach and above all goal-based categorization take a different standpoint. The former associates fuzziness with inappropriate correspondences between the features a category member exhibits and the function they are supposed to enable. (In 'penguins have wings, but are not really birds', the relationship between the features 'wings' and their effect 'flying' is ambiguous or even conflicting: penguins' wings are too small to allow the animal to fly, the causal association between wings and flying is unproven and therefore penguins are 'fuzzy' birds.) The latter – i.e. goal-based perspective – sees fuzziness as being inherent in the category itself, which complicates the task of determining categories' boundaries and permanence. Multi-category membership lies in the

eyes of the beholder, who associates entities depending on their goals and ideals. Interestingly, goal-based categories open an entire new research area connecting various degrees of individualistic categorization (by a lay person, an employee, a client, an activist) with both organizations' self-categorization (i.e. its strategy in terms of identification and positioning; Foreman and Whetten, 2002; Rindova et al., 2011) and with social categorization by expert legitimating agencies (such as critics, accreditation agencies, rating agencies, awarding entities and so forth; e.g. Sauder, 2008).

Studying categorical blending together with categorical spanning (Rao et al., 2005) is likely, therefore, to be a potentially fruitful challenge for research. Audiences are not simple gatekeepers and boundary patrollers, whose function is confined to rewarding pure players and penalizing hybrid actors. They will have different worldviews and make sense of the same features and of ordered combinations of features in different ways – as do producers – and may have divergent goals that significantly alter their perceptions about candidate organizations and their ensuing judgment – as, again, may producers. The time is right to create a better dialogue between these different perspectives and to determine and test empirically the conditions under which the causal-model or the goal-oriented views might moderate or modify the knowledge we have accumulated so far.

To move in this direction, it is likely that we need to find a new way to approach multi-category membership empirically. One important step might be to switch from respecting the blanket assumptions of many current works – e.g. '*When all audiences hold the same expectations and enforce the same codes for organizational identity*, violations and standards are met with particularly sharp deviations' (Hsu and Hannan, 2005, p. 476; our emphasis) – to studying the features and dimensions that audiences actually use to categorize. In particular, it is crucial to determine whether their evaluative schemas of features' relationships are neutral or are asymmetrical, oriented by their world theories. If the audiences' categorization processes imply some elements of causality, we must observe statistical structures as well as pairwise correlations between category features. As Rehder (2003b) argues and shows in his study, prototype-based models are unable to capture the higher-order interactions among features that a causal-model approach can predict. Research is therefore needed into the structuring of the features and dimensions that constitute categories for different audiences as we cannot assume *a priori* the existence of consensus about which features audiences attend to, perceive, and use to make sense of organizational reality.

We also face challenges to determine multi-category membership's antecedents, like for instance audiences' 'omnivorousness' that characterizes consumption of goods belonging to opposed socially ordered categories such as listening to opera and blue grass, or eating at McDonalds and three-star Michelin restaurants (Peterson and Kern, 1996). Recent techniques such as relational class analysis enable researchers to evaluate schematic similarities across vectors of scaled variables (unlike Euclidian distance which uses squared metrics), thus taking account of the direction of the differences across values in the scale (Goldberg, 2011, p. 1406). This method allows one to proxy patterns of causal associations across various audiences and use them as variables in models exploring the antecedents of categories based on causal models. Even situated goals attached to audience members could then be identified, enabling the creation – and use in models – of subgroups which share understandings about the goals they pursue.

Finally, at the organizational level, our understanding of the consequences of purity and hybridity need to be much better informed. Most studies to date account for an organization's grade of membership by aggregating the relative proportions of products belonging to pre-fixed categories and adjusting for the number of categories. Moving down to the level of categorical dimensions or features would generate new measures of proximity and similarity based on the influence of various features with variable causal and classificatory power. Future studies along this line could help refine our knowledge of what it means to be a hybrid organization for both audiences and the organizations themselves, which are currently supposed to risk damaging themselves if they combine organizational and/or product features.

Strategy

Taking the causal-model or goal-oriented approaches to categories seriously can help us avoid ascribing essentialist characteristics and behaviours to audiences *and* producers. In their study on chefs, Durand et al. (2007) showed how producers (restaurants) could respect the categorical discipline of traditional cuisine and innovate within and beyond the category. Organizations may not *either* respect *or* disrespect categorical imperatives – they constantly do both, abiding by *and* upsetting categorical orders by recombining categorical features. They can be innovative while still respecting the category (by making changes that preserve established codes) or they can introduce code-violating changes: such tinkering with selection criteria and categorization processes is the very essence of strategy (Durand, 2006). This perspective enables one to explore how and why producers may decide to extol their offerings under differing identities to various audiences, blending categories, and whether they adjust to or anticipate how audiences structure their causal schemas or how they make their goals evolve over time.

So departing from the prototypical view – where audiences use and operate existing categories and organizations, and are passive vis-à-vis them – we can understand organizations and firms as driving forces behind audiences' categorizations by developing strategies defined at the organization level as 'theories about competitiveness that helps organizational members to select among available resource utilizations and exchange modes' (Durand, 2006, p. 144). We can therefore theorize and test the antecedents and consequences of how organizations think of categories as selection filters via which pertinent audiences (critics, buyers, raters, etc.) attend to, perceive, and judge them. Doing so opens a 'white space' – larger and perhaps more interesting than that of categorical fit and distance from prototypes – which is a space of categorical disconnection between what firms and organizations imagine and theorize as benefitting their appeal, competitiveness, and survival, and what audiences make sense of and sanction (Porac et al., 1989; Rindova et al., 2004; Rosa et al., 1999). The space where organizations' mental models of competitiveness and audiences' categorization fail to align is that of strategic decisions – to invest, to divest, to regroup, to ally, etc.

Recent accounts of strategies pursued by entrepreneurs illustrate one way of moving in this direction. The entrepreneurship literature has traditionally offered two ways to explain opportunity recognition and seizing. The first emphasizes the rationality of cognitive accounts leading to perceptions of needs in the market and the paths towards

satisfying them, while the second focuses on the external determinants making possible (in terms of legitimacy and competitiveness) the novel moves entrepreneurs propose into the market. Recent attempts to connect these traditions more usefully have suggested inductive reasoning as being helpful in emphasizing how the internal logics derived from entrepreneurs' prior experience are mobilized in sensemaking and sensegiving processes vis-à-vis different audiences, such as investors or potential clients (Cornelissen and Clarke, 2010). Reinvigorated approaches to categorization could contribute to understanding when and how entrepreneurs' and decision makers' inductive recombination of features and the elaboration of associated narratives align successfully with audiences' categorization processes. By definition, entrepreneurs bring novelty and span, blend, and recombine features from existing entities which are more or less prototypical of existing categories. Integrating fresh perspectives on audiences' categorization could make novel offerings more acceptable in the sense that they respect audiences' causal models and/or match their goals more squarely.

Managerial Cognition and Market Mediation

Producers co-construct competition through categorization processes that exclude rivals as being outside their environment and reinforce prior stereotypes about the rules of the game (Porac et al., 1989). Audiences contribute to categorization by validating groupings of features that appear coherent. When knitwear products no longer needed to come from Hawick in Scotland to be seen as being of good quality, other knitwear producers from abroad suddenly became rivals of Scottish firms (Porac et al., 2011). No longer limiting ourselves to categories defined according to prototypes frees our exploration of a market discipline that operates independent of the workings and outputs of managerial cognition. Insights from the causal-model and goal-based approaches to categories suggests that managerial cognition not only shapes who competitors are and what their identities are (Rindova et al., 2004, 2011), but also influences the processes audiences use to categorize them.

The different views about categories all concur in considering categories as mediation interfaces that put social and economic actors into contact in markets – but mediation does not cover the same reality for each of them. The prototype-based view on categories sees mediation as a neutral canvas – as if categories were knitting an intermediary fabric with fixed stitch size, so that producers must fit audiences' categories and where markets are disciplining actions. The causal-model view on categories proposes that audiences hierarchize criteria and features according to their worldviews, which thus explains why and how features are related to each other in certain modes. Congruence with these audiences' causal relationships would then be what should guide how managers shape their organizations and determine their range of activities. So from this perspective, mediation in markets is not as neutral as it is in the prototype-based view, as audiences organize features following directional and asymmetrical paths and relationships. The goal-based approach would even suggest managerial cognition should respond to the intentions audiences exhibit when grouping together entities like firms and organizations. From this perspective, categories are active mediators of perception, and audiences may create categories that correspond to temporary purposes, selecting in and out

drastically heterogeneous entities according to whether they fit their *ad hoc* category or not.

We can therefore deduce from the prior discussion that competition is not a neutral matching process but that firms' and audiences' categorization 'interpret' competition (Porac et al., 1989; Rindova and Fombrun, 1999). Producers' cognition also results from how their audiences categorize them and reward or penalize them accordingly, so that the nature, form, and disposition of competition reflect the categorizations of both producers and audiences. Emancipating ourselves from the discipline of the prototype view opens up new possible theorizations of competition grounded on the different mediation roles categories play in markets.

Further Cross-Fertilizations

This article calls for a fundamental reorientation in future studies on categorization. We have elaborated on the 'flat structure' and 'goal-less' nature of the dominant category perspective and advocate here the need for research on categories to be more infused with the socio-political underpinnings of audiences' categorization. Economic life cannot be comprehended without studying actors' *classificatory function* (Durkheim and Mauss, 1963 [1903], p. 4), which stems both from their mental representations and from the social structures. We thus need to compare the various audiences' categorization processes and explore the reasons for a market space to be categorized in one way or another. Where do audiences' worldviews come from? Are they not influenced by the sense and meaning conveyed by some of the logics of actions that emanate from – and are diffused and defended by – institutions? We suggested that to categorize robins and penguins, researchers need to understand 'fly' as a causal feature that relates to 'wings' in the 'bird' category. However, categorizing producers and products involves considering features and conditions that lead into value-laden realms. Norms – as expected rules of conduct – are part of the causal models used to categorize firms or sub-entities (such as products). Environmental consequences of production, social conditions, externalities inherent in products, are integral to the causal models used by different audiences – by the same token, market analysts, investors, employees, and activist NGOs do not use the same features or the same models when categorizing or judging complex entities like organizations.

The causal-model view approaches the meaning of categories from a structural perspective, where features 'cause' effects (wings make birds fly, seeking profits may cause firms to downsize, or status considerations impose restraints on actors). Compared to the prototypical approach, the cause-and-effect relationships that pervade categories enable researchers to characterize how and what meanings categorization actualizes, so categorization studies might be fruitfully combined with institutional logics of action or even ideological justifications for action (Tetlock, 2000; Thornton and Ocasio, 1999). Institutionalization is the habitual repetition and objectification (at the community level; e.g. Tolbert and Zucker, 1997) of a pattern of actions that becomes associated with a category of actors, creating some 'if–then' chains of expectations and actions. Some scholars have started to try to determine how instantiating a certain institutional logic may condition audiences' cognitions and behaviours (Marquis and Lounsbury, 2007;

Thornton and Ocasio, 1999). Others have shown how personal epistemologies and political ideologies can influence managers' evaluation of decisions, and so impact on how an organization accounts for its collective actions and outcomes (Tetlock, 2000). We have to pursue and cross-fertilize the two streams of research.

The *ad hoc* perspective on categorization replaces the list of features (prototype) or directional hierarchies (causal models) by situated goals formed and formulated by audiences in the course of their actions. The sharing of goals in such situations need not imply universalistic endorsement of the categories, but simply the coherent and concurrent comprehension of some end as achieved via a common grouping of features or objects in the same class (Goldberg, 2011). For example, 'actions to be taken to satisfy environmentalist audiences' or 'decisions to increase our ROE' embrace various concrete organizational activities: communication campaigns, real support for NGOs, green-washing, outsourcing, spin-offs, divestments, etc. If we accept that *ad hoc* categorization plays a role in gathering together otherwise distant entities aligned mainly by the services they contribute towards a desired goal, what sources might underpin this goal? Greed or envy? Social welfare? Economic nationalism? What goals do audiences pursue? Our earlier example of an *ad hoc* category, 'things to stand on to change a light bulb', is clearly harmless – its goal is functional and limited. But (considering organizations) what goals do *US News & World Report* have when ranking law schools (Sauder, 2008), or the *Financial Times* in ranking international business schools, or *Robert Parker* in rating wines according to a new set of categories that do not match European traditions? Such considerations emphasize the need to move towards studies of organizations and products that engage audiences in classificatory tasks that go beyond the simple presence/absence of technical features. Cultural features and their association with history, politics, and traditions may matter significantly more than is currently acknowledged in explaining both audiences' and producers' categorizations and behaviours. Here, new avenues for categorization research may better connect the existing sociological and ecological work on categories with other institutional and processual approaches that aim to describe and understand not just the discipline involved in markets' cognitive infrastructures but also the networks of meaning that emerge, propagate, and self-justify themselves via sequences of goal-based categorizations and actions.

Beyond Limitations

This article juxtaposes three approaches to categories and categorization, which may not be equally good in all circumstances. We have rehearsed the limitations of prototype theory so as to substantiate other approaches – but again, not exhaustively: other perspectives on categorization have been proposed (Murphy, 2002). Causal-model theory and goal-based perspective are not themselves free of shortcomings. For the former, how can we account for the various degrees of knowledge that underpin causal models? Why might the causal associations you and I operate differ when we are categorizing energy producers, cultural products, and so forth? (In contrast, prototype theory avoids such problems by presupposing a common baseline for each and every audience.) As far as the goal-based perspective is concerned, can we imagine that *ad hoc* categories are really resilient and enduring enough to influence, shape or structure

markets? Rather than engaging with the difficult questions 'head-on', we may rather consider them in a dynamic manner, opening another fruitful avenue for future research. We could theorize about the emergence of categories as being goal-based and grouping various entities. Audiences would then hierarchize features and their inter-relationships according to some causal schemas inspired by their current knowledge, recent discoveries, or even from non-scientific notions taken from such authorities as religion or ideology. At a final stage, the causal model that buttresses categories would move to the background, leaving the resultant list of features to the fore. Such a dynamic interpretation would, in effect, treat prototypes as stable states of categories' evolution, before categorical blending starts again and leads to the emergence of new categories.

Finally, we have considered each view of categories at the same level of analysis, whereas they could be explanatory at different levels. At the individual level, we can imagine that all of us may have our own goal-based categories, and – since these will differ across people – these goal-based categories may build into a limited number of category causal models. Our goal-based categories would have lower explanatory power at the aggregate level than causal models more widely shared among broader audiences. When third parties elaborate theories and criteria about classification, prototypical categories emerge and are used by audiences independently of the goals and theories that originally underpinned them. Hence, more refined models of categories/categorizations in organizational contexts need to articulate the three views discussed in this paper, both by producing staged models that include time, and by 'nesting' the three views at distinct levels of analysis (individuals, audiences, and markets).

CONCLUSION

Research in cognitive psychology over the past four decades has proposed several models of the categorization process. Drawing on the prototype view, organizational scholars have provided a framework to explain how category membership shapes, impacts, and limits organizational success. However, past research has overlooked alternative models of categorization, and we have presented two distinct approaches that have significant consequences for how we can explain multi-category membership and its consequences. Other implications follow from this theoretic exercise, notably for strategic management and entrepreneurship, and in terms of understanding the mediations enacted in and by markets between producers, audiences, and third parties. We hope this article will foster the reorientation of research on categories or more precisely its variety. Taken together, categories involve a disciplinary exercise, a cognitive test of congruence, and a goal satisfying calculus. We are to integrate codes, causal associations, and goals to further our corpus on 'organizations and categorization'. Work that answers our call for category stretching will yield a more nuanced understanding of the antecedents and consequences of categorization processes, for producer/audience relationships, between producers, and across audiences.

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