

# **Emerging categories as battlefield for status and meaning: the contested emergence of a blended category in the camera market**

**Aurélien Acquier**

**Professeur, ESCP Europe**

aacquier@escpeurope.eu

**Jean-Christophe Bianic**

**Doctorant, ESCP Europe**

bianic@escpeurope.eu

## **Résumé :**

Market categories have attracted considerable interest over the last few years. However, as the literature has mostly focused on the disciplining role of categories, it faces difficulty to explain the process by which they emerge. Accordingly, this article focuses on the negotiation of the boundaries of an emerging category in the camera market: mirrorless interchangeable lens cameras (MILC). MILC emerged in 2008, blending the oppositional pair of categories dividing up the camera market until then: compact and reflex cameras.

To analyse the difficulty to institutionalize the new market category, we link the concepts of boundary work, status and introduce the notion of category schizophrenia. We show that emerging market categories constitute arenas of competition, where producers work on the boundaries of the category as a way to influence status dynamic. In the case of the MILC category, this process leads to a situation that we call category schizophrenia, where producers are unable to define collective boundaries for the category.

We make different contributions to the literature. First, by exploring how producers struggle to define the boundaries of emerging categories, we unveil the political issues inherent in the emergence of new market categories. Secondly, we discuss the generality of the notion of category schizophrenia and its link to category emergence and dissolution. Last, we discuss the implications of this perspective for research on market categories.

**Mots-clés :** category emergence, boundary work, status.

# **Emerging categories as battlefield for status and meaning: the contested emergence of a blended category in the camera market**

## **INTRODUCTION**

As essential ingredients of social life and economic exchanges, categorization has attracted considerable research interest over the last few years (Negro et al., 2010). Categories influence how producers construct their roles and identity (Porac et al. , 1995), how audiences make sense of their environments, and how goods and services are valued within markets (Rosa et al. , 1999).

According to Durand & Paolletta (2013: 1100), “categories represent a meaningful consensus about some entities’ features as shared by actors grouped together as an audience”. Key to this definition are the notions of meaning and consensus. Categories stabilize when they acquire consensual meaning that is helpful for audience sense-making. However, we still know little about how categories acquire or lose meaning, how they appear, dissolve or get institutionalized. Accordingly, different voices have recently called for a reorientation of research on categories, to better take into account the problem of category emergence and change, and better explain how categories are constructed and evolve (Glynn & Navis, 2013; Kennedy & Fiss, 2013; Kennedy et al, 2010; Lounsbury & Rao, 2004; Navis & Glynn, 2010). More specifically, Kennedy & Fiss (2013) argue that “rather than starting with stable category structures, we need to view and study such category structures as an outcome and an accomplishment to be explained” (2013: 1139). Accordingly, the disciplining function of categories should be seen as a collective achievement rather than an inherent property of categories. Pleading for a fundamentally dynamic approach to categories, their perspective “views challenges to existing categories as routine rather than rare events” (1141).

Emerging categories constitute an intriguing object for research: when emerging categories appear, their status (Podolny, 2005) within the market classification system is often unclear and may be the object of negotiations between producers and audiences (Rosa et al. 1999). Accordingly, this paper explores how producers, in a given market, try to shape the status of emerging categories through boundary work. Acknowledging the political dimension of

classification dynamics (Lounsbury & Rao, 2004), we show how producers shape the boundaries of emerging market categories, according to their own status and as a way to influence the status dynamic of the category in the wider classification system.

Empirically, we focus on the on-going emergence of a new market category in the camera industry: mirrorless interchangeable lens cameras (MILC). MILC emerged in 2008, blending features from the oppositional pair of categories dividing up the camera market: compact cameras (typically cheap, compact, and easy to use) and reflex cameras (typically more expensive, better quality, bigger, and meant for expert users).

The paper explores the processes by which producers set boundaries around their products, in an attempt to foster the new blended category. The institutionalisation of the new category faces the challenge of achieving collective coherence (Wry et al., 2011). To analyse this challenge, we link the concepts of boundary work, status and introduce the notion of category schizophrenia. We show that emerging market categories such as MILC constitute arenas of competition, where producers try to define the boundaries of the category according to their own status.

In the case of the MILC category, the distributed boundary work leads to a situation that we call category schizophrenia, where producers are unable to define collective boundaries of the category, thus weakening the position and the perceived value of the category (Kenney et al., 2010). In psychology, schizophrenia refers to a pathology, describing a mental disorder in the construction of one's personality, and difficulty to account for the limits between oneself and its environment. Schizophrenia is “characterized by a specific type of alteration of thinking, feeling, and relation to the external world” (E. Bleuler, 1911/1950, p. 9). In its informal usage, schizophrenia is associated with split personality (McNally, 2007).

Likewise, we use the term 'schizophrenic category' to describe a category defined by multiple and conflicting boundaries, loosing coherence and unable to be clearly distinguishable from its environment.

Through this paper, we make different contributions to the literature. First, by exploring how producers struggle to define the boundaries of emerging categories, we unveil the political issues inherent in the emergence market categories. Secondly, we discuss the generality of the notion of category schizophrenia and its link to category emergence and dissolution. Last, we discuss the implications of this perspective for research on market categories.

## **1. EXPLAINING CATEGORY EMERGENCE: STATUS AND BOUNDARY WORK**

According to (Kenney & Fiss, 2013: 1142), “category emergence is [...] important to study because it orients attention to processes by which new kinds of organizations or products become ‘real’ enough to be recognized as elements of classifications systems”.

In this section, we articulate the concepts of status and boundary work to explore how producers negotiate the status of emerging categories

### **1.1 Category Status and Status of Producers**

Status refers to the rank of a person or a group within a larger social system, which confers prestige, deference and privileges (Parsons, 1970). In situations where quality is difficult to observe, status signals quality (Podolny & Phillips, 1996). In economic sociology, the concept has been used to show how market exchanges reflect and are shaped by producers’ status (Podolny, 1993, 1994).

Additionally, status has cumulative and performative effects that have been referred to as a “Matthew effect” (Merton, 1968): once acquired, higher status grants “greater rewards for the same quality effort”, manifested by higher price, diminished efforts for convincing audiences, easier access to finance. As such, status is self-reinforcing.

In category studies, status has mostly been used to investigate producers’ propensity to conformity (Philips and Zuckerman, 2001), or their ability to alter the classification system (Rao et al., 2005). Interestingly, to our knowledge, nothing has been done on the way classification systems give shape to status. This lack of attention of status negotiations in classification systems is surprising, considering that categories not only group things together, but also order the groups between each other (Durkheim and Mauss, 1903), and encapsulate hierarchy (DiMaggio, 1987).

As we try to understand how producers are attempting to manage the status of emerging categories through boundary work, we apply the concept of status to both categories and producers.

Category status is the symbolic position of a category within a classification system. It transfers to producers depending on how they dominate the category: domination of higher-status category grants producers higher status than domination of lower-status category.

Emerging categories offer an interesting setting for investigating status formation. No past demonstrations of quality exist in new market categories that could orient the perception of audiences (Podolny & Phillips, 1996). As a result, when emerging categories appear, their status (Podolny, 2005) within the classification system is often unclear and may be the object of negotiations between audiences and producers (Rosa et al., 1999). As it influences the status of producers' themselves, we argue that producers' boundary work can be interpreted as a way to interfere with status dynamic.

## **1.2 Boundary work**

Boundary work consists in the social construction of distance and proximity between items. It is central to the formation of a classification system, which consists in both “lumping” and “splitting” things (Zerubavel, 1996). Accordingly, the concept of boundary is ubiquitous in category studies. It is either being used to embody the disciplining effect of categories (e.g.: Kovacs and Hannan, 2010; Negro et al. , 2010; Durand et al., 2007) or to investigate the reconfiguration process of classification system (e.g. : Lounsbury & Rao, 2004; Rao et al., 2005 ; Santos and Eisenhardt, 2010).

In this paper, we wish to build a narrative approach of boundary work, by looking at how producers use market stories (Rosa et al., 1999) to build and tune the distance between new products and existing categories. We argue that this process is central to understand category emergence.

Boundary work is acknowledged as a political process: Lounsbury and Rao (2004) demonstrate the role of the media in reconfiguration of classification of mutual funds, while Santos and Eisenhard (2010) study the way entrepreneurs use boundary work to claim new markets.

This is consistent with Lamont and Molnar's analysis of symbolic and social boundaries (2002). According to them, boundaries have a symbolic content, as they are “conceptual distinctions made by social actors to categorize objects, people, practices, and even time and space” (2002: 168). As Zhao (2005) showed, symbolic boundaries embed and sustain social boundaries, i.e. “objectified forms of social differences manifested in unequal access to and unequal distribution of resources (material and nonmaterial) and social opportunities” (Lamont and Molnar, 2002: 168). In the case of market classification systems, this mean that

conceptual distinctions progressively results in a differentiated access to resources for producers.

Building on these papers, we posit that the boundary work of emerging categories constitute a central political issue. Category emergence is likely to represent an area for considerable strategic agency. For competitors with marginal positions on higher-status market segments, such novel categories may represent a unique opportunity to reposition themselves in the status hierarchy of the market and contest the traditional hierarchy and increase their own status.

#### **1.4. Research question**

This paper explores how producers shape the boundaries of emerging market categories according to their own status within their field, and how such boundary-work collectively impact the emergence of the category.

## **2. METHODS**

To investigate the rise of a new market category, we chose to focus on a single case study, which is coherent with Kennedy & Fiss (2013)' recommendation to focus on the liminal zone of emergence of market categories. Single case study are also common in the literature on categories, and relevant as they enable to collect rich data on emerging, dynamic, and understudied phenomenon (Siggelkow, 2007; Yin, 2003).

### **2.1 Relevance of the case study**

We chose to analyse the emergence of a new category in the camera industry: mirrorless interchangeable lens cameras (MILC). We document the emergence of the MILC category over the period 2008-2013.

The MILC category emerged in 2008, as two camera producers (Panasonic and Olympus) championed a novel category, blending the oppositional pair of categories dividing up the camera market into compact and reflex cameras. Specialized distributors quickly set up dedicated spaces for MILC, and organizations publishing market statistics—CIPA, GfK—created dedicated statistics for this new category, which is an important step in categories emergence (Kennedy, 2008). Starting 2010, competitors followed, entering the MILC segment one by one. Interestingly, the category was named the "hybrid" category in the

French camera market, as the products borrowed technological traits from both compact cameras and reflex cameras.

By 2012, all major producers had entered the segment with a wide variety of narratives about what the novel category was about. In 2013, we found that there was very little agreement among them as to what the category consists in.

## **2.2 Data sources and collection**

To document the development of the MILC category, we gathered various sources of primary and secondary data. Both primary and secondary data was collected by using the site [dpreview.com](http://dpreview.com)<sup>1</sup>, which constitutes one of the most complete databases of camera products.

We systematically collected ‘market stories’ (Rosa et al., 1999) in the form of press releases from [dp-review.com](http://dp-review.com) on new products launch, from 2008 to 2013. This data constitute narratives producers use to define the boundaries of the new category.

We built an extensive database of all 1968 digital cameras released by producers between 2000 and 2013. We collected the reviews conducted by [dpreview](http://dpreview.com) experts and coded awards they give products in order to compute producers’ status scores.

In parallel, we conducted 17 semi-structured interviews with professionals from the imaging industry in France. Our sample include 11 representatives from marketing and design departments of all major camera producers, 2 press journalists who survey the market, 2 salesperson from a specialized distributor, 2 brand demonstrators, and one representative of a user association. All interviews were conducted at the Salon de la Photo in Paris in November 2013, except one held over the phone a few weeks later. They lasted from 30 minutes to 1h30. They were systematically transcribed and are in the process of being coded.

We also used statistical data from the Camera and Imaging Product Association (CIPA) and other sources (GfK, IDC), as well as annual reports from companies to document sales figures across regions of the world and analyse the relative status of producers in the camera market.

## **2.3 Data analysis**

---

<sup>1</sup> Digital Photography Review (established November 1998) is a website about digital cameras and digital photography. The website produces comprehensive reviews of digital cameras, lenses and accessories, buying guides, user reviews. The website itself claims that "These days the site is one of, if not the, premium digital photography site with an audience of seven million unique visitors a month reading over one hundred million pages". (source : wikipedia)

Interview data and market stories were coded and analysed using Nvivo 10. We analyse the content of the interviews inductively, to identify narrative used by producers to set boundaries around their products. We then tried to make sense of the link between actor's status in the camera field and its approach to the category.

To measure each actor's status in camera market categories, we compute the position of the producers on each category on the basis of the awards (Deephhouse and Suchman, 2008) their products have received from the specialized media site [dp-review.com](http://dp-review.com). We first compute an absolute score based on the number of 'gold award', 'silver award' and absence of reward they received ranging from 2000 to 2007 for the reflex. Status being ordinal we then translate absolute scores into relative one. Our findings are shown in Graph 1.

### **3. THE CASE: THE RESISTIBLE RISE OF THE MILC CATEGORY**

#### **3.1. The camera industry before the MILC category**

In order to understand the emergence of the MILC category, a few background elements are needed about the camera industry and its classification system. In 2008, the camera market was structured around an oppositional pair of categories, targeting different types of customers and grounded on different technical architectures:

Compact cameras, also known as "point-and-shoot" camera, are designed and marketed for users who look for a camera that is cheap, compact and easy to use. The typical technical architecture is based on a lens that is attached to the body and cannot be changed by the end user. Unlike reflex cameras, there is no mirror to guide the light to an optical viewfinder. Instead, the light goes directly to the sensor, and the user sees the image on a screen at is located at the rear of the camera, using a featured called 'live preview'. Compact cameras mainly focus on automatic photographic modes, and offer limited opportunities for configuration and manual setting by the photographer. They do not exhibit very good image quality, as they use small digital sensors and lower quality lenses.

At the other end of the spectrum, reflex cameras, also known as Single Lens Reflex cameras, are designed and marketed for more expert customers. Instead of capturing an image by seeing it on a screen at the rear of the body, the user sees the "real image" by looking through an optical viewfinder. This implies the inclusion of a mirror in the architecture of the camera (see Appendix 1). In order to conduct the light that enters through the lens into the viewfinder,



a mirror and a pentaprism is integrated in the design. The sensor, which is located behind the mirror, captures the light when the mirror goes up. As the sensor is much bigger in size than compact cameras<sup>2</sup>, reflex cameras offer much greater optical quality and a much more qualitative and artistic appeal for the user<sup>3</sup>. Reflex cameras also present a better autofocus performance, and are much more customizable than compact cameras. They enable to switch lenses, and use manual modes. On the downside, they are much heavier, bigger, and more expensive than compact cameras.

### 3.2 Launching the MILC category

The MILC category was born in 2008. In the 5th of August, Olympus and Panasonic announced a joint development of the “micro four-thirds standard”. According to the press release, the micro four-thirds standard introduced a new technical architecture, *“enabling dramatic reductions in size and weight. Under the terms of an agreement between the two companies, they will work jointly toward commercial production of significantly lighter and more compact interchangeable lens type digital camera systems”*.

On the 12<sup>th</sup> of September 2008, Panasonic issued the first MILC camera model, the G1, with a design inspired from Reflex. Market audiences reacted enthusiastically to this first product. DP review explained that its teams had been *“hugely impressed by what a mature and sorted product it is, and by what Micro Four Thirds promises for future camera designs. The G1 is a conservative product to launch the new system with, but it's also a very exciting product that could well change the game for the entry-level DSLR market. If nothing else it offers first time buyers a genuine alternative.”* In the detailed review of the product, the reviewer emphasized the revolutionary potential of the new architecture for digital photography: *“The Micro Four Thirds standard - and the Panasonic G1 - represents the first complete break with legacy SLR technology going back well over half a century, and as such represents an important moment in digital photography's short history. It would be fair to describe it as the first truly 'all digital' interchangeable lens camera”*.

---

<sup>2</sup> typically ten times bigger, if you compare APSC sensors which is the most common format used on reflex, with 1/1.8" sensors which are used on most compacts.

<sup>3</sup> for example, because of the size of the sensor which is closer to the 35mm film standard, users can take photographs narrow depth of field, i.e. blurry background, which is often associated, for good or bad reasons, to more expert photography

In June 2009, Olympus released its PEN EP1, built on the micro four-thirds standard, but based on a different design, much smaller and retro looking. As soon as the products were released, Panasonic and Olympus engaged with retailers in order to transform the classification system and the way MILC cameras were presented to the clients and referred-to in stores.

*“(Creating a new category) is central to develop customer confidence [...] Otherwise, you would have found it either in the reflex, or in the compact category. This would have created some confusion, and everyone would have been lost. From the beginning, it was clear that we wanted a new category to exist.”* (Panasonic Marketing manager)

The MILC category appeared as an innovation, initiated by producers with a lower status on the reflex market, who could not compete frontally with Canon and Nikon, as a solution for them to position themselves on higher value markets.

*“They (ie: producers who created the MILC category) could not compete with Canon and Nikon on the high-end reflex market [...] By creating the MILC category, they (the producers) tried to take position on a noble approach to photography, based on interchangeable lenses. [...] In terms of Research and Development, trying to copy-paste what Canon or Nikon do is just inconceivable. From a financial point of view, it would be abyssal. [...] Companies like Panasonic, Samsung, Sony, cannot rely on such an asset, and must find other solutions and displace the market to empty territories”.* (Marketing Director of a major brand, Anonymized)

Early definitions tended to stick closely to the technical architectural principles of MILC. In their press announcement, Olympus and Panasonic referred to “micro four-thirds interchangeable lens system camera”. Panasonic press release for the release of the G1 was entitled: *“World’s First Full-time Live View Digital Interchangeable Lens Camera Adopting New-Generation Micro Four Thirds System Standard DMC-G1 from LUMIX G Micro System”*. In the specialized media, the first models were sometimes being referred to as micro four third cameras.

The naming of the category began to differ across countries<sup>4</sup>. While most Anglo-Saxon countries adopted the terminology of MILC, DSLM (for Digital Single Lens Mirrorless) or

---

<sup>4</sup> As of 2014-01-25, wikipedia indicates that during a few years, there was no well defined classification, and makes the inventory of "various alternative names" that exist to name the category, including compact system camera (CSC), mirrorless system camera (MSC), digital single lens mirrorless (DSLM), digital interchangeable-lens system camera. Mini Reflex or “mirrorless” are also used to describe the category.

simply mirrorless; in France, the label “hybrid” was eventually adopted and gained momentum.

*“hybrid is not the most beautiful word, but it has become commonplace. I’ve been working with hybrids for a while and journalists used to refer to them as ‘briflex’ (to mix bridge and reflex), or as interchangeable-lens compacts... Each time I was interviewed, they had a different name for it.”* (Panasonic Marketing Manager)

### **3.3. Competitors follow**

In 2010, Sony was the first competitor to join the category. Others followed with various level of implication. In 2011, Nikon entered the market and massively invested in marketing resources, successfully taking the lead of the French market in terms of volume. In 2012, Canon was the last producers to enter with a single model, and a perceived lack of interest for the whole category.

*“When I see people from Canon, they don’t even believe in it themselves. There is absolutely no effort done on the hybrid category. There is a line of three lenses... They simply don’t believe in it.”* (Camera shop owner)

## **4. FINDINGS**

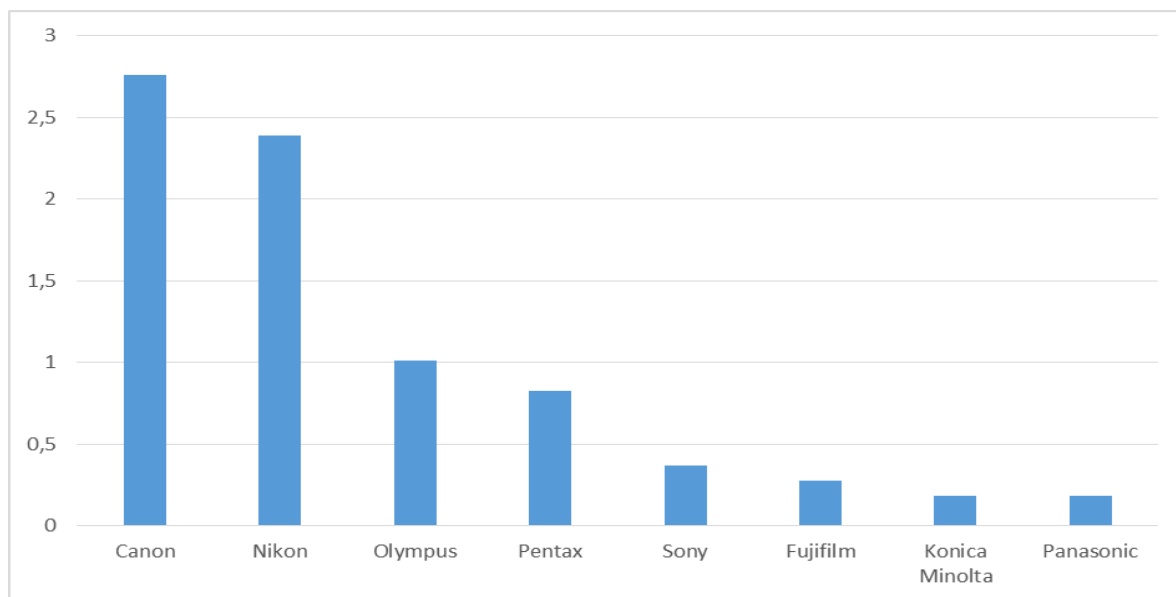
### **4.1 Category status and producers’ status**

Reading the categorization system in terms of status (Podolny, 2005), the compact category clearly appears as a lower status category than the reflex category. The category incorporates less noble products in terms of technical performance, optical quality, users, and financial value. Serious photography, as opposed to casual, remains attached to the Reflex category. Business is also more profitable in the reflex segment, exhibiting lower volumes but increased margins, and resting on a financially attractive business model:

*"When you consider the business model of compact cameras, the average buyer will pay for a memory card, and in the best case for an additional bag. In contrast the average buyer of a reflex will, one or two years after the initial purchase, buy a new lens, and then a new one, maybe a grip, a second battery... It is a more profitable and regular business model for the manufacturer, which helps amortizing investments in research, development and marketing"* (Michel M., Marketing Director of a major brand)

As for the status of producers, we computed scores to evaluate producers' domination of the reflex category on the basis of awards their product have received from dp-review over the 2000-2008 period. In 2008, we find that Canon & Nikon enjoyed the highest score within the reflex category. Additionally, Canon and Nikon cumulatively accounted for 83% in value of the segment worldwide (source IDC, 2008). Olympus and Pentax scored close to the mean score while other producers were far behind. Panasonic who conjointly created the MILC category with Olympus scored rather low on our scale.

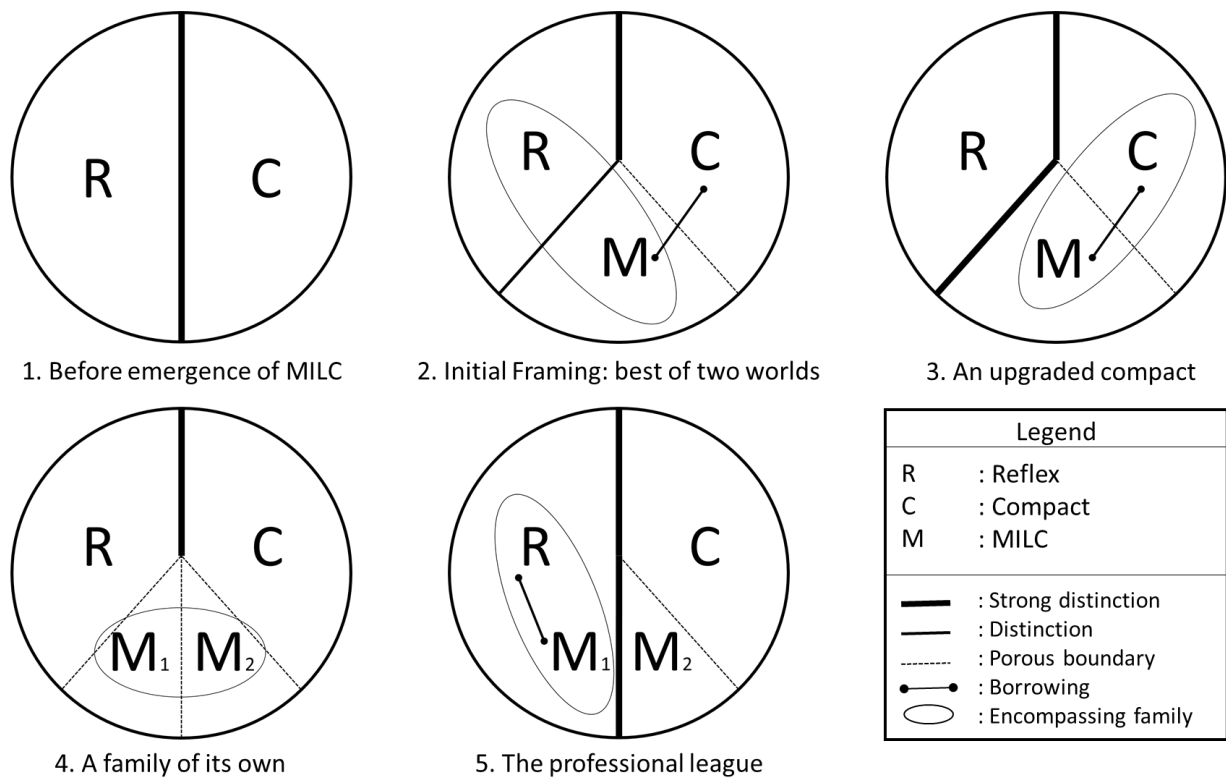
Graph1: Producers' relative evaluation scores on the Reflex Category (2008)



#### 4.2. A diversity of boundary work configuration

We found a diversity in the configuration of producers' boundary work configuration. We identify four distinct boundary work configurations (see Schema 1). In regards to clarity, we gave labels to each boundary work configuration that reflect their basic philosophy. Accordingly, the initial boundary work is referred to as the "best of two worlds" boundary work, and the subsequent configurations as "upgraded compact", "a family of its own" and "the professional league".

Figure 1: Classification system before emergence of MILC and a diversity of boundary work configurations



#### 4.2.1. The initial boundary work: “best of two worlds”

The initial boundary work of Panasonic and Olympus was characterized by an attempt to encompass the reflex and MILC category into a common family of products—the interchangeable lens camera family—while stressing the distinction between them. The ties with the compact category were more obvious, and the boundary between MILC and compacts somewhat porous. The central argument of producers were that the MILC category was borrowing from both reflex and compact categories and was thus entitled to offer the “best of two worlds”, hence the label we gave to this boundary work configuration.

One central narrative of this initial boundary work was about the revival of a family of cameras that had un-explicitly shrunk to a single category: the interchangeable lens family, whose only instances in 2008 were reflexes. Producers argued that what used to be a prolific family of products reaching beyond the perimeters of reflex was in need of revival in the form of new products.

At the same, time, another narrative was clearly aimed at differentiating MILC from their reflex counterpart. In their first press release, Panasonic and Olympus clearly state the creation of the category was designed to address the customer tendency to see reflex cameras as “*big, heavy and difficult to operate*”. The micro four-thirds standard was accordingly

designed to offer reflex-like quality in much smaller, lighter bodies that would not scare away non-expert users.

As they release their first models, both manufacturers put the ability of their new standard to offer the ease of use of compact cameras, massively borrowing commercial argument belonging to the compact category centered on compactness and ease of use.

This results in a somewhat ambiguous status of the newly created category: close to the lower status compact, yet different; tied to higher status reflex, though distinct. This may reflect the initial hesitation of the initiators of the category in the earliest stages of its emergence.

#### 4.2.2. “Upgraded compacts”

Another configuration consists in staging MILC products as “upgraded compact”. It appears in 2011, with the entry of producers like Nikon and Pentax. This configuration dropped the “interchangeable lens family” narrative, while stressing the distinction between MILC and Reflexes. The proximity with compacts is even stressed to a point of conflation.

All references to reflex are dropped. The narrative of interchangeable lens is there, but this time the encompassing nature of the family is absent. The possibility to switch lenses is only a supplementary feature that isn’t worth putting reflex and MILC in the same bag.

On the contrary, in this configuration, the encompassing family is the one of compact cameras:

*“We prefer the term ‘Interchangeable Lens Compact’, because there is the notion of a compact camera (both for the body and the lens, with a small size), but where you can switch lenses.”* (Nikon Marketing Manager)

Additionally, the distinction with reflex is stressed, while the attenuation of the interchangeable lens encompassing family narrative disappear.

*“Nikon addresses the needs of those who are no longer satisfied with the quality of their compact, want to scale up, but do not wish to move to a reflex, because it is too heavy, too complicated, not easy to manage. (...) We have more colored products, [...] simpler to use with a strong emphasis on automatic programs, and also extremely compact in terms of lenses”.*

*- Nikon Marketing Manager*

This configuration is a clear attempt at downgrading the status of the new category, by anchoring it to the lower status compact category and deepening the gap with its higher status

reflex counterpart. These narratives are mostly used by Nikon and Pentax. Nikon is well-established on the reflex category, and MILC

#### 4.2.3. “A family of its own”

A third configuration consists in adopting two distinct set of narratives to cover the whole spectrum of models labelled as MILC. This configuration use a narrative about the specific architecture of MILC models in addition to another one, relating it to either the reflex category or the compact category.

This time the encompassing family is the MILC category itself. This a narrative of distinction centered on the architecture of the MILC camera.

acknowledging a secondary boundary within the MILC category itself. It consists in outlining two sub-segments within the MILC category mimicking the distinction between compact and reflex, while the MILC distinctive architecture justifies a distinct category.

*“It has become a whole market within the market” Fujifilm*

#### 4.2.3. “The professional league”

This boundary work configuration also acknowledge the two sub-segment of the MILC family, but clearly attempt to mute the distinction between the higher-quality segment and the reflex category, this time without any distinction between the two. This boundary work involves dropping the reference to the distinctive category of MILC.

“Our hybrid cameras bring all the benefits of a reflex camera in terms of image quality, as we use the same sensors. (...) Our strategy is very clear in that regard. We propose cameras that are of equivalent to reflex. The first criterion is image quality. And quality comes down to one single question: the size of the sensor. (...) Sony’s claim is to say: the quality of a reflex in a compact body. To obtain the quality of a reflex, there is no other solution than adopting the sensor of a reflex. And as we produce more than half of these sensors on the market, it is easier for us to have such an APSC sensor than something else”. (Sony marketing manager)

This configuration was introduced by Olympus around the OM-D models. Sony and Fujifilm followed. This is a configuration carried on by actors dominated on the reflex category.

*“If I show this camera to a user (he holds an alpha 7), he is going to say: this is a reflex. But technically it is not a reflex, it is an hybrid (ie. MILC) camera. (...) Our strategy is to take the market the other way around.” - Sony Marketing Director.*



Likewise, product presentations and commercial arguments from different producers, such as Olympus or Fujifilm, argue that their MILC products outperform even professional reflex cameras, in terms of image quality (see appendix 2 and 3 for an illustration).

*« When I speak of this model, I speak of a professional camera. When I do a presentation, I never use the term hybrid or micro 4/3rds. Because today, no one cares. What we are interested in is the result (ie: the photography), and the result looks professional. »*

*- Marketing manager, Olympus*

#### **4.3. A schizophrenic category**

At the end of 2013, the MILC category could be qualified as schizophrenic, as there is no consensus over the boundaries of the categories. When we look at the market stories used by producers to shape the commensuration space of their product labelled as MILC, there is very little consensus as to how these models should relate to existing categories. No producer was able to set boundaries that became accepted by all competitors and became the market reference.

Like schizophrenia in psychology, categorical schizophrenia is to a certain extent 'pathological', because it inhibits the ability of producers to set collective boundaries for a category. In such a situation, the category is not clearly distinguishable from the existing classification system.

Although the vast majority of producers acknowledge the problems raised by the diversity of boundaries around the category, there are different reactions related to the necessity to maintain the category. Some producers (mostly those who see the category as a 'upgraded compact') consider the category is institutionalized, and consider it useful in spite of its limitations. Others, using the professional league configuration, are willing to dissolve the category into existing ones.

*“When it came out [...], everyone said an hybrid was not as good as a reflex. [...] People kept this in mind. Today distributors still separate reflex and hybrids on the shelves, and people still think that it is not as good as a reflex because the distributor sells them separately. [...] The day you will mix the products on the same shelves, it will be a true revolution.” – Olympus Marketing Manager*



As the producers failed to build collective boundaries for MILC models, the category itself is increasingly contested and likely to explode. .

*"For me, today, the hybrid category is dying. But the cameras are not dying. It is just that the name has no meaning anymore. [...] Next year, at the Salon de la Photo, we may still be using the term, but in two years we will have found another name because it has become meaningless. Or it will be split into compact hybrids and reflex hybrids. I think we are living a transition right now". – Journalist - Chasseurs d'Images*

It would be tempting to believe that putting into question the MILC category would mean that producers defending their position on the higher status category have defeated their challengers. However, the possible disappearance of the MILC category would not necessarily mean that the new category had no effect on the market. Quite the contrary, we believe that the disappearance of MILC as a category would probably lead to a major destabilization of the whole classification system of the camera market. As Rao et al. (2005) showed, borrowing process lead to erosion of boundaries between categories, especially oppositional pairs. Here the new category blending elements from the oppositional pair led to such an erosion, facilitating borrowing between the two opposed categories.

Meanwhile, new concepts have appeared in both the compact and reflex markets. The compact market (fixed lens) has seen the emergence of new concepts, with bigger sensors and optical viewfinders, such as the Fujifilm X100, meant for expert users. Meanwhile some producers on the reflex market (Sony) have decided to transpose several architectural principles of mirrorless cameras into the design of its Reflex, leading the firm to adopt electronic instead of optical viewfinders.

*"Next year, we may eventually not even categorize anything in our buying guide... This year, it was such a pain to sort the cameras into boxes that next year, we may decide to blow it all, and sort only by price... You see, it is even impossible to sort by sensors sizes, because you have so many of them". (Camera journalist, Réponses Photo)*

By failing to set collective boundaries on a novel category producers may have unwittingly contributed to destabilize the whole classification system. In such a situation, rethinking the whole classification system may constitute the next area of competition on the camera market.

## 5. DISCUSSION

### **5.1 Boundary work as a way to influence status dynamic**

We argue that the initial boundary work of Panasonic and Olympus' products was not only a technical attempt at a better classification of products within the digital camera market. Our argument is twofold: first, it is likely that the products receive a better evaluation within a blended category rather than as category spanners; second, neither of the two existing categories would have offered an appropriate milieu for the new products. The novel category seems like the most beneficial choice for managing social evaluation, and status dynamic in the field.

Previous research indicates that category spanning entails social evaluation penalties, all the more the classification system is contrasted (Kovacs and Hannan, 2010). According to this stream of research, would Panasonic and Olympus had left their products in between the two existing categories, this would have diminished their appeal toward audiences. The creation of a novel category may have been the proper strategy to prevent such penalties. However, as DiMaggio (1987) noted, the creation of a new category requires a tremendous amount of resources to be spent. It remains to be established whether enough resources have been spent on the category. Producers' lack of social skill (Fligstein, 2001) may also have been crucial to the inability to set collective boundaries.

Research shows that such innovation toward category system are more likely to stem from producers standing either high or low in ordinal social evaluation (Philips and Zuckerman, 2001). High standing producers have sufficient resources, and will suffer less from negative evaluation (Durand et al., 2007), and have the capacity to drag competitors with them (Rao et al., 2005); while on the other hand low standing producers have less to lose. Here, of the two entrepreneurs, Panasonic is effectively standing rather low on our position scale in 2008, but Olympus is clearly standing in the middle, a little above the mean position of producers, the most serious challengers of Canon and Nikon in terms of status. This is an interesting result that would require further inquiry.

Another option for the two entrepreneurs would have been to assign their product with one of the two existing category, either compact or reflex. This would have require some institutional work on boundaries that we are not discussing here, but neither category would have been as beneficial in terms of commensuration for the novel models. On one hand, affiliation with the compact category would have tied down entrepreneurs' products to a lower status segment glass-ceiling valuation by the same movement. The entrepreneurs were attempting to take a

“noble approach” to photography, but affiliation with the higher status reflex category would have entailed direct competition with Canon and Nikon’s overwhelming status. The ‘Matthew effect’ (Merton, 1968, Poldony, 1973) conceptualise the cumulative effect of status. Canon and Nikon having already achieved to distance their competitors in terms of evaluation, competing with them entails many penalties for challengers. The creation of a new category, that is a new blank competitive space in which to gain evaluation with a clean slate, is a way to circumvent the ‘Matthew effect’ self-maintaining mechanism preserving dominant incumbents. There still need however some research concerning the extent to which a newly created category start with a clean slate, for there might be spill-over effect from one adjacent category to another.

## **5.2 Category schizophrenia and boundary work in a competitive space**

Category schizophrenia results from divergent producers’ interest and boundary work in the market. In their study of hybrid organizations, Battilana and Dorado (2010) show the necessity of strong identity work to prevent hybrid organisation from “drifting” from their own logic. Their paper indicates evidences that in an organisational context hiring and socialisation policies are key to this process. As shown by the MILC category, hybrid market categories face similar problems. Market categories, however, are set in field-level competitive spaces in which identity differs in nature and scope. The boundary work configuration we’ve identified can be seen as an effort to infuse the category with status and identity. But we also show that boundary work configurations are highly dependent on producers’ status within the market, therefore leading to heterogeneous if not contradictory boundary propositions. In the case of MILC, these boundary work configurations are so divergent that it becomes impossible for audiences to make sense of boundaries of the category, leading to category schizophrenia.

Our case suggests that the initial boundary work played a strong role in the latitude it left to newcomers to reframe the initial concept. Further research should focus on what makes a first initial boundary work more or less robust, as well as the types of collective action likely to lead or to hinder categorical schizophrenia. Such work could usefully contribute to a better understanding of the need and difficulties behind the governance of emerging categories.

## **CONCLUSION**

Our case illustrates the challenge faced by initiators of new categories to drag competitors within boundaries they set through market stories. It also shows how competition hinders collective effort on the category in absence of a clear leader. In spite of the initial endeavour over the micro four-thirds standard, the category remains the aggregation of individual boundary work driven by producers' attempts at manoeuvring status dynamics.

On this regard, the case is also useful for the literature on innovation and disruption. The theory of disruptive innovation should involve an institutional dimension to understand how producers change and then stabilize the boundaries of categories, for without this, sensemaking is impossible for audiences.

## REFERENCES

- Bleuler, E. *Dementia praecox or the group of schizophrenias*. (p. 548). Oxford, England: International Universities Press.
- Deephouse, D. L., & Suchman, M. (2008). Legitimacy in organizational institutionalism. In R. Greenwood, C. Oliver, R. Suddaby, & K. Sahlin-Andersson (Eds.), *The Sage handbook of organizational institutionalism*.
- DiMaggio, P. J. (1987). Classification in art. *American Sociological Review*, 52(4), 440–455.
- Durand, R., & Paoletta, L. (2013). Category Stretching: Reorienting Research on Categories in Strategy, Entrepreneurship, and Organization Theory. *Journal of Management Studies*, 50(6), 1100–1123.
- Durand, R., Rao, H., & Monin, P. (2007). Code and conduct in French cuisine: Impact of code changes on external evaluations. *Strategic Management Journal*, 28(5), 455–472.
- Durkheim, E., & Mauss, M. (1903). De quelques formes primitives de classification. *Année Sociologique*, VI, (1901-1902), 1–72.
- Glynn, M. A., & Navis, C. (2013). Categories, Identities, and Cultural Classification: Moving Beyond a Model of Categorical Constraint. *Journal of Management Studies*, 50(6), 1124–1137.
- Kennedy, M. T., & Fiss, P. C. (2013). An Ontological Turn in Categories Research: From Standards of Legitimacy to Evidence of Actuality. *Journal of Management Studies*, 50(6), 1138–1154.

- Kennedy, M. T., Lo, J. (Yu-C., & Lounsbury, M. D. (2010). Category currency: The changing value of conformity as a function of ongoing meaning construction. In *Categories in Markets: Origins and Evolution*.
- Kovacs, B., & Hannan, M. T. (2010). The consequences of category spanning depend on contrast. In *Categories in Markets: Origins and Evolution*.
- Lamont, M., & Molnár, V. (2002). The Study of Boundaries in the Social Sciences. *Annual Review of Sociology*, 28(1), 167–195.
- Lounsbury, M. D., & Rao, H. (2004). Sources of durability and change in market classifications: A study of the reconstitution of product categories in the American mutual fund industry, 1944–1985. *Social Forces*, 82(3), 969–999.
- McNally, K. (2007). Schizophrenia as split personality/Jekyll and Hyde: The origins of the informal usage in the English language. *Journal of the History of the Behavioral Sciences*.
- Merton, R. (1968). The Matthew effect in science. *Science*.
- Navis, C., & Glynn, M. A. (2010). How New Market Categories Emerge : Temporal Dynamics of Legitimacy, Identity, and Entrepreneurship in Satellite Radio, 1990-2005. *Administrative Science Quarterly*, 55, 439–471.
- Negro, G., Hannan, M. T., & Rao, H. (2010). Categorical contrast and audience appeal: niche width and critical success in winemaking. *Industrial and Corporate Change*, 1–29.
- Negro, G., Koçak, Ö., & Hsu, G. (2010). Research on categories in the sociology of organizations. In *Categories in Markets: Origins and Evolution* (pp. 3–35).
- Parsons, T. (1970). Equality and inequality in modern society, or social stratification revisited. *Sociological Inquiry*.
- Phillips, D. J., & Zuckerman, E. W. (2001). Middle-Status Conformity: Theoretical Restatement and Empirical Demonstration in Two Markets<sup>1</sup>. *American Journal of Sociology*, 107(2).
- Podolny, J. (1993). A status-based model of market competition. *American Journal of Sociology*.
- Podolny, J. (1994). Market uncertainty and the social character of economic exchange. *Administrative Science Quarterly*.
- Podolny, J. (2005). *Status signals. A Sociological Study of Market Competition*, Princeton,
- ....

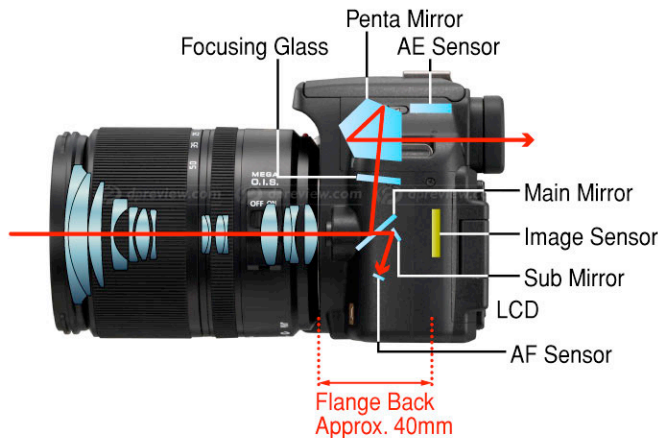
- Podolny, J., & Phillips, D. (1996). The dynamics of organizational status. *Industrial and Corporate Change*.
- Porac, J. F., Thomas, H., Wilson, F., Douglas, P., & Kanfer, A. (1995). Rivalry and the industry model of Scottish knitwear producers. *Administrative Science Quarterly*, 40(2), 203–227.
- Rao, H., Monin, P., & Durand, R. (2005). Border Crossing : Bricolage and the Erosion of Categorical Boundaries in French Gastronomy. *American Sociological Review*, 70(6), 968–991.
- Rosa, J. A., Porac, J. F., Runser-Spanjol, J., & Saxon, M. S. (1999). Sociocognitive Dynamics in a Product Market. *Journal of Marketing*, 63, 64–77.
- Santos, F. M., & Eisenhardt, K. M. (2009). Constructing Markets and Shaping Boundaries: Entrepreneurial Power in Nascent Fields. *Academy of Management Journal*, 52(4), 643–671.
- Siggelkow, N. (2007). Persuasion with case studies. *Academy of Management Journal*.
- Wry, T., Lounsbury, M. D., & Glynn, M. A. (2011). Legitimizing Nascent Collective Identities: Coordinating Cultural Entrepreneurship. *Organization Science*, 22(2), 449–463.
- Yin, R. (2003). *Case studies research: design and methods*. Thousand Oaks, Sage.
- Zerubavel, E. (1996). Lumping and splitting: Notes on social classification. *Sociological Forum*.
- Zhao, W. (2005). Understanding classifications: Empirical evidence from the American and French wine industries. *Poetics*, 33(3-4), 179–200.



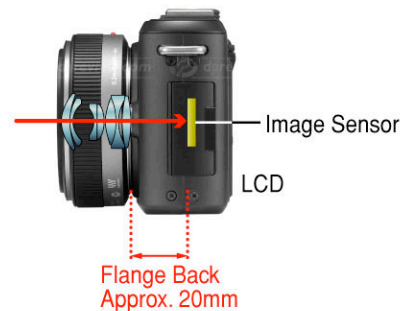
## APPENDIX

### Appendix 1 : Comparison between a reflex system (left) and a mirrorless system (right)

Mirror Structure (DMC-L10)



Mirror-Less Structure (DMC-GF1)




source: [http://www.dpreview.com/reviews/PanasonicGF1/images/whatsnew/L10\\_GF1\\_v10.jpg](http://www.dpreview.com/reviews/PanasonicGF1/images/whatsnew/L10_GF1_v10.jpg)

### Appendix 2 : Internet advertisement for the Olympus OMD – EM1 - 2014

**E-M1: The whole package. In a perfectly-sized package.**

The new E-M1 gives you more freedom to take the shots you want, with all the image quality you expect. The new E-M1 is the most advanced compact system camera ever produced. It is based on the Micro Four Thirds standard and comes packed with sophisticated technologies like the enhanced Live MOS sensor and TruePic VII image processor, the world premiere of DUAL FAST AF and extended WiFi controls from your smartphone – all delivering outstanding image quality and performance, raising the OM-D series to a whole new level. This superiority is matched by a body design that has the perfect dimensions with a portable weight. All things considered, it outperforms D-SLR cameras both in terms of its size and imaging excellence.



*Average D-SLR cameras*

<b>PERFECT SIZE</b> The perfectly-sized high-end system camera	<b>VERSATILITY</b> The world's most advanced lens line-up	<b>TECHNOLOGY</b> Engineered to outperform D-SLR cameras
---	--	---

### Appendix 3: Fujifilm presentation of the market at Le Salon de la Photo - Paris (2013)

