DISHING UP INDIVIDUAL AND COLLECTIVE DIMENSIONS IN KNOWING

Key words: practice, Bourdieu, knowledge, case study, haute cuisine

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Abstract

This paper investigates the interplay between individual, collective and organizational dimensions in knowing? We consider knowing in practice in the perspective of habitus, practice and field dynamics in Bourdieu's praxeology. We ground our research in the case of a grand restaurant. During our eight year-observation range, three chefs managed this restaurant while the cook team remained stable. We analyze the dynamics of knowing for these three periods and highlight that some forms of knowing can be neither transferred nor shared. They have to be developed by individuals themselves. The case also stresses the importance of the fit between individuals, groups and the environmental (organizational or institutional) context of practice.

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Building on an "epistemology of practice" (Cook and Brown 1999), this paper looks at the individual and collective nature of knowing in organizations. It reports a research that seeks to better delineate these two dimensions and understand how they are intertwined in the organization. What is the interplay between individual, collective and organizational dimensions in knowing?

The dialogue between the individual and collective dimensions of knowledge and learning has long been and still is a burning issue. In a recent study, Fenwick (2008) outlines that the individual and collective nature of learning has been a recurrent and central concern in research, and that it remains unresolved to date. In a parallel view, Felin and Hesterly (2007) analyze the contribution of past research on the relative importance of individual and collective knowledge in strategic management, to highlight an unsettled dispute. Their view is in coherence with Elkjaer's (2004) that in both learning and communities of practice approaches, "the individual is made subordinate to the organization, either by 'choice', […] or by dissolving the individual in the communities (Elkjaer 2004: 421).

The practice-based and knowing in practice approach (Cook and Brown 1999, Nicolini, Gherardi and Yanow 2003, Antonacopoulou 2007, Chia and MacKay 2007) can help overpass this individual-collective dichotomy. The practice approach grants a special space to knowledge while replacing it in a larger perspective, which is essential to capture the individual/collective question. Knowledge and learning are considered as key to practice, and knowing is further understood as the dynamic creation, mobilization and permanent structuring of knowledge for and in practice (Nicolini, Gherardi and Yanow, 2003).

In this paper we mobilize Bourdieu's work on practice (Bourdieu 1990, 2000) and particularly his concepts of field and habitus to capture knowing and specifically explore the interplay between individual and collective dimensions in knowing. Fields are relatively autonomous social spaces that historically structured by specific rules and stakes. Individuals, as agents, occupy positions in the field that both condition their possibilities for practice and the development of their habitus. Habitus, as a set of dispositions and beliefs, is the driver for practice. It is structured by the context of the field and the experience and position of the agent inside this field.

In order to analyze the interplay between individual and collective aspects in knowing, we build on the in-depth study of the case of a gourmet restaurant located in France, which underwent three head chef changes over the past eight years. We center our analysis on the nature and distribution of knowing in the kitchen. We specifically size the role of individual knowing. We show that in our case, some forms of knowing could be transferred from the former chef to his sous-chef, whereas others could not. These forms of knowing were related to different forms of practice, among which the operational practice of managing the kitchen team and the practice of new dish creation are most salient. Our case highlights that some forms of individual knowing can be neither transferred nor shared. They have to be developed by individuals themselves. We thus argue that, when these forms of knowing are crucial for organizations, and particularly when they are linked to competitive advantage, efforts to transfer or share such knowing are useless. Organizations should better focus on and organize the conditions that favor the development of individual knowing.

In the following pages, we first situate the individual-collective knowledge debate in research and highlight the fruitfulness of a practice-based approach in this regard. In the second and third sections, we respectively detail our methods and present field study. The article closes with a discussion of our results.

1. BACKGROUND

The dialogue between the individual and collective dimensions of knowledge and learning has long been and still is a burning issue, as outlined by Fenwick (2008). She shows that 71% of the papers concerned with learning and which were published in *Management Learning* between 1994 and 2004 (and respectively 57% in *Organization Studies)* focused on the individual-collective issue.

1.1. Individual and collective dimensions in the learning and knowledge literature

This interplay between individual and collective dimensions in learning and knowledge has been addressed from three different perspectives: learning, knowledge-based approach, and communities-of-practice. Table 1 synthesizes the mains questions raised within each perspective around the individual / collective debate.

Organizational learning	**Knowledge-based view**	**Communities of practice**
Focus on mechanism and process of learning	Focus on the nature of knowledge (Grant 1996, Tsoukas and Vladimiru 2001)	Focus on the social characteristics of the community and its construction (Wenger 1998, Thompson 2005 Probst and Borzillo 2008)
Learning as individual (Simon 1991), organizational (Daft and Weick, 1984, Crossan et al 1999)	Knowledge as individual vs social (Tsoukas 1996, Spender 1996) Knowledge creation (Nonaka and Takeuchi 1995)	Type of participation (Wenger 2000)
From individual learning to organizational learning (Argyris and Schön 1978, Miner and Mezias 1996)	Transfer and sharing of organizational knowledge (Hansen 1999, Eisenhardt & Santos 2002, Inkpen 2008)	Situated learning (Lave and Wenger 1991, Handley et al 2006) Knowledge management (Peltonen and Lämsä, Scarso and Bolisani 2008)

Table 1: The individual / collective issue within three major perspectives on knowledge and learning

In our view, these three perspectives present major weaknesses to understand the interplay between individual and collective dimensions.

First, and although Antonacopulou (2007) notes that organizational learning is now commonly agreed to be the product of individuals' learning, organizational learning scholars still consider that linking organizational to individual learning is problematic. This may be due to a split between cognitive and behaviorist approaches on learning. These approaches presuppose different (and at least incompatible) learning processes at the individual and at the collective level. Moreover, the collective nature of learning itself is heterogeneous: some researchers consider group learning, whereas others deal with organizational learning (Gherardi 2000). Most of all, authors focusing on the organizational dimension in learning emphasized learning as the creation of routines. Little research has captured the richness of organizational learning in its cultural aspects (Yanow 2000).

Second, researchers who investigated the nature of knowledge used the individual-collective distinction to categorize knowledge. (Baumard 1996, Spender 1996). Such use presupposes that there would be a fundamental difference in nature between individual and collective knowledge. This difference has not been clearly discussed in the literature though. As a consequence, collective knowledge is mostly viewed as individual knowledge amplified. Individual knowledge, in this view, has to be shared and transferred (Von Krogh and Nonaka 2000), mainly through routines Zollo and Winter 2003) in order to build a competitive advantage for the organization (Dosi et al 2008). As asserted by Felin and Hesterly (2007) the knowledge-based view soon postulated that knowledge had to be collective in organizations and did not bother explore the underlying issue of bridging individual and collective levels, with very few exceptions (notably Simon 1991 and Grant 1996).

Third, the community of practice approach contributed to highlight the importance of the social context and of doing in learning. However, as Elkjaer (2004) outlines, this perspective neglected the individual side and the question of what and how people learn in such communities.

In face of these limitations, the practice-based approach on knowing (Cook and Brown 1999, Nicolini et al. 2003, Gherardi 2006, Orlikowski 2002) can help to better capture the complex nature of the interplay between individual and collective dimensions in learning.

1.2. A practice-based approach on Knowing

Building on Cook and Brown (1999) and Nicolini et al (2003), we consider knowledge as permanently created, structured, restructured and used for action, and taking place in the social world. Thus we refer to knowing, as dynamic, contextual, situated, and engaged. knowing is linked to the conditions of its emergence. Its value is also conditioned by this context. It is situated in "moments of lived work, located in and accountable to particular historical, discursive, and material circumstances" (Suchman 1987: 188). Knowing is also engaged, in the sense that it is orientated towards the achievement of practical goals.

We consider that all concrete human activity is practical and takes place in the social world. Practice may refer to very basic activities: what people eat and most of all the way they eat, the sport they like and the way they practice it, their political opinions and the way they express them; the work they achieve and the stakes they pursue.

We refer to Bourdieu's work on practice and particularly field and habitus to characterize the link between individual and collective aspects of knowing in practice.

Bourdieu defines social worlds in terms of fields, microcosms in the macrocosm of society at large. Organizations constitute fields and are themselves included in larger fields such as industries, competitive markets, economies and society (Bourdieu, 2005: 205, 217). Even if fields refer to very different social worlds, such as politics, economy, arts, science and academia, Bourdieu (2002: 113) insists on common properties and general laws in relation to the way they work.

Fields are historically built and evolve through time. Pictured at a given moment, they are structured spaces of positions, ruled by their own stakes and specific interests (Bourdieu, 1990a). Agents participating in a field generally take for granted inherent rules and develop a habitus adapted to the field (Bourdieu, 2002: 114). Social fields work as fields of forces, spaces for struggles between agents in order to dominate the field. Bourdieu highlights the weight and forces exerted on agents through the structure of the field, but at the same time he insists on their conditioning and the fact that they do not determine agents' conduct (Bourdieu and Wacquant, 1992: 135–138). Moreover, regardless of agents' positions, all agents share a common and core interest in preserving the field: "Struggles presuppose an agreement on what is worth fighting" (Bourdieu, 2002: 115).

Habitus is a system of lasting, transposable and socially constituted dispositions (Bourdieu 1990). It "functions at every moment as a matrix of perceptions, appreciations and actions, and makes possible the achievement of infinitely diversified tasks" (Bourdieu 1977: 95). Habitus is a repertory of dispositions. It includes appreciations, beliefs, thoughts, about what is possible and what is not, what is good and what is bad. It constitutes guidelines for action. Agents develop their habitus through their experience in life. The fields they are involved in and their positions in these fields structure their habitus, and habitus structures, generates practices. Thus habitus is both a structuring and a structured structure, an acquired system of generative schemes: a "system of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations" (Bourdieu 1990: 53).

Similarities between habitus and knowledge dynamics has been established (Lahire 1996, Bronckart and Schurmans 2001, Gomez 2002, Mutch 2003). However, Bourdieu's framework has not been used so far to capture the interplay between individual and collective aspects in knowing. Yet, this interplay is a core characteristic of the field-habitus-practice system, where habitus is the cornerstone with its "double nature" (Héran 1987): it is "the social embodied" (Bourdieu and Wacquant 1992: 127). The field structures the habitus and habitus contributes to constituting the field as a meaningful world. Habitus is also both personal and social: personal because it is acquired, structured and restructured through the particular experience of each agent, and social, because it takes sense in the specific context of the field. It intertwines the individual and the social, which are co-dependent. The focal point is "neither the individual […] nor groups […] but the relation between two realizations of historical actions, in bodies and things" (Bourdieu and Wacquant, 1992: 126). This ontological complicity between the agent and the field solves the micro–macro opposition, treating agents as social individuals. Their practice relies on both their position in the field and their personal experience, thoughts and dispositions, also built in the social world.

The field- habitus-practice system constitutes the framework we mobilize to empirically explore the dynamics of knowing and particularly capture the dynamics between individual and collective aspects of knowing. Hereafter we present the empirical analysis of knowing within grand restaurant. We first describe our method and present the field of haute cuisine and our focal case. Then we present our analysis of cooks' knowing.

2. METHODS

We build on the in-depth study of the case of an haute cuisine restaurant located in France, which had three different head chefs over the past eight years. This longitudinal study represented an opportunity to develop an in-depth analysis while generating data for comparison between highly different periods.

In order to identify knowing and focus on the interplay between the individual and collective levels we based our approach on performed tasks as "real work" (Cook and Brown, 1999: 387). Yet, in order to avoid the risk of relying on a single data source (Denzin 1989, Eisenhardt, 1989) and to better address the sensitive aspects of cooking and gastronomy, we collected information from multiple sources (Miles and Huberman, 1994; Lincoln and Guba, 1985; Yin, 2003): secondary data, observation and interviews, over eight years.

We collected secondary data from media (the press, the internet and television); in France gastronomic affairs are of paramount interest in society at large (Parkhurst-Ferguson 1998: 631). This provided us with biographies, Chefs' interviews and descriptions of the restaurant and food. We initiated this collection as a field background and maintained it as an ongoing process throughout the study to enrich our focused data set. Second, we conducted direct observations in the restaurant's kitchen at each period. These observations cover the entire sitting and lasted an average of 5 hours each. They gave us the opportunity to observe many facets of the kitchen life: before (preparation of ingredients, briefings, clients' list scanning), during (cooking and service under pressure) and after sitting (debriefing, cleaning and supplies ordering). Given the kitchen size and pressure, we could only take partial direct observation notes. Yet, we systematically transcribed our observations in full details immediately after the sessions to guarantee greater freshness and accuracy. Third, we conducted interviews with each head chef and with members of the kitchen and dining room teams. Interviews with chefs lasted an average of two hours and were transcribed in full. Interviews with others lasted an average of one hour and were also transcribed. We especially interviewed the dining room chef and a domain chef who experienced the authority of the three different head chefs.

All this qualitative data resulted in a rich set which we analyzed with the view that knowing is something that people do. We used our data to contrast knowing distribution between the three periods in relation to the overall organization and its variable success. We focused our attention on what happened in the restaurant, the head chef's role, what different actors did and how they did it (Gomez et al., 2003). We used these categories as a first step in selectively coding our data for each period. Then we iteratively compared and contrasted our data across periods. Our aim is to reach exploratory conclusions. These are embedded in the particular context of haute cuisine (described hereafter) and we therefore think in terms of results transferability rather than traditional external validity (Lincoln and Guba, 1985).

3. FIELD STUDY

Haute cuisine is the field composed by elite restaurants. It is highly institutionalized and major gastronomic guidebooks play a dominant role (Karpik, 2000; Parkhurst-Ferguson, 1998: 20), rendering competitive success apparent through the restaurant's ratings (Durand et al. 2007). The Michelin Guide is the most important guidebook (Karpik, 2000). It ranks restaurants with stars (none to three, to reflect the gastronomic level) and forks (none to five, to reflect the decorum). Stars are historically of greater importance in the field (Karpik, 2000) and are awarded in regard of the inventiveness of the cuisine (menu, new dishes, and culinary universe) and the daily operational perfection. Restaurants awarded with stars compose the field of haute cuisine, in which performance is non-financial and socially constructed (Rao et al., 2003). Yet according to Johnson et al. (2005: 173, 179), progressing from two to three stars involves a 30% revenue increase, whereas losing a star involves a fall up to 50%. Less than 60 organizations in Europe are awarded Michelin's three stars (the maximum grade comparable to Olympic gold medals) over a total population of about 1600 starred restaurants in haute cuisine. Although they all provide the finest gastronomic experience, grand restaurants are very different from each other. They use different products and offer different cuisines, directly grounded on the chef's personal identity, cooking style, ability to innovate and environment (Balasz, 2001; Parkhurst-Ferguson 1998: 637; Rao at al. 2003). In haute cuisine, there is in fact a direct relationship between the chef's knowing, the gastronomic level and Michelin stars. In addition, French grand restaurants are small organizations with short time-cycle activities. This allows the observation of the whole organization.

Our focal case is a premium French provincial restaurant. It is a 70 employees' organization, 25 of which in the kitchen, to serve up to 85 guests at each service. As in any other grand restaurants, the kitchen is organized by stations: meat, fish, garde-manger (vegetables and herbs), pastry etc. Each station (and the cooks in that station) in under the responsibility of a station chef. All kitchen staff (cooks and station chefs) is under the authority of the chef and second-chef. Each dish is the result of the combined efforts of multiple actors: on average, five elements comprise a dish. Station cooks prepare these various elements under the responsibility of their station chef. Once ready (sliced, cooked etc.), elements are assembled to compose the plate. Then the plate is inspected (composition, aspect) at the pass by the head-chef or second-chef before being expedited to the dining-room. The restaurant experienced three different periods over the past eight years as summarized in Table 2.

Period	Till 2003	2003-> Jan. 2005	2005 -> today
Michelin stars	3	2	2
Cuisine	Celebrated for greatest classicism	Classical with misjudged innovations	Modernized and innovative
Chef	C1 (and kitchen Chef)	C2	C3
Chef's Bio	Experienced, trained in different places, founded the restaurant.	Late 30's, trained in few restaurants, since 10 years in the focal kitchen.	Late 30's, trained in various restaurants and countries, founded other restaurants.

Table 2: The three periods and chefs in the restaurant

3.1. Chef C1 and the first period

The first period started with its foundation in 1986 by a three-stared chef (C1) who maintained the highest ranking till June 2003, when he retired. The restaurant was a larger organization, with two kitchen teams (lunch and dinner) able to serve up to 120 guests at each sitting. C1's gastronomic universe was grounded on terroir and traditional gastronomy, reinterpreted classics to glorify local products. As GaultMillau (2000) puts it, restaurant C is a "complete universe", made of "luxury and mastery". C1 "had a cuisine instinct, a vision that was both precise and advancing; a stylist" (Le Monde, 2005).

C1 was born in the late 1930's, the third generation of cooks in his family. After he was trained in various grand restaurants C1 joined his father in the kitchen where they rose to three stars. Then alone, he founded the focal restaurant. Under his authority, it experienced a very low employee turnover: in 2003 many employees have been in the restaurant for more than 10 years. It was especially the case of the dining-room and second chefs. All employees claim and we observed that C1 was both very demanding and very motivating: he could be harsh in the kitchen and at the pass, but had a deep gastronomic culture that he was willing to share with all cooks. C1 also was revered by external actors (media peers) with whom he maintained close relationships, taking part in gastronomic life of the country with demonstration, interviews and a variety of other means. In 1998 and as he was growing older, C1 prepared his retirement and succession. Building on the strong continuity in employees, C1 appointed a dedicated kitchen chef to take up the cooking torch while he saw himself as a guest. He chose his former second-chef who had been in the restaurant for 10 years and whom he always worked very closely with: "Such a retirement has to be prepared. For me it [was] sealed [...], when he became kitchen chef. [...] Everyone can [...] be a good cook, but getting fully involved in such a restaurant requires [...] immersing oneself in its spirit, knowing the guest who like it here and make sure it continues. At each sitting I take him in the dining room to discuss with clients..." (Le Figaro, 2003) "People often ask me if he's my son. There is no secret, you must invest in people" C1said (L'Hotellerie Restauration 2000). Our direct observations are that in fact C1 still interfered with cooking matters as he wished. We saw him correcting seasonings or inspecting plates as much as discussing with clients in the dining room. C1 especially remained in charge of new dishes creation although he involved the kitchen chef in discussions and cooking tryouts. The kitchen chef was responsible for daily operations (regular sittings, deliveries' control). On the ground of our understanding of knowing as doing, we identified spheres of knowing that we related to three different categories of actors in the kitchen.
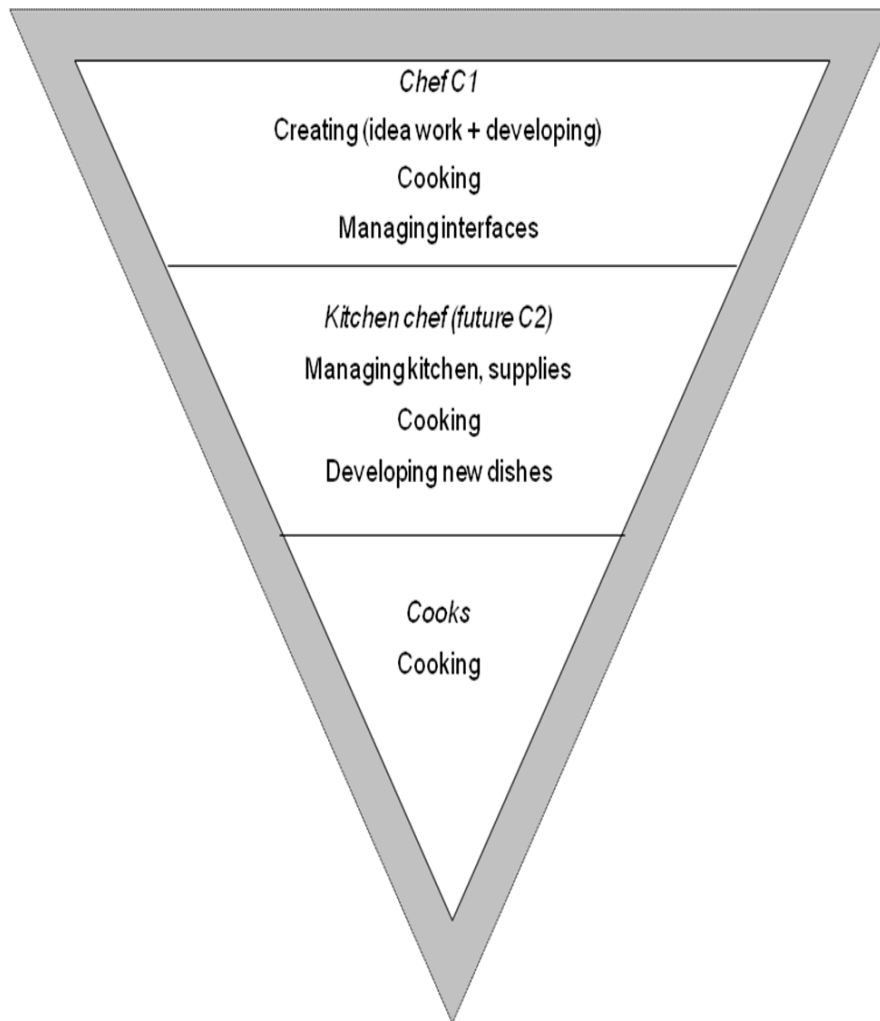
Figure 1: knowing in practice distribution in period 1

When C1 retired in June 2003 the former kitchen chef took responsibility for whole restaurant and became chef (C2) and a new period begun.

3.2. Chef C2 and the second period

Initially trained in a cooking school, this chef spent a few years in different restaurants (where he rose from commis to domain chef) before joining the focal restaurant in 1988 as a commis. When he took the responsibility of the restaurant, C2 could count on an experienced kitchen team: the new second and fish chef had been there for 11 years and the meat chef for 8 years (interviews). C2 was also used to the kitchen having been working in it for 10 years. As a chef though, he had to do more than just managing the kitchen during regular sittings. He had to manage the restaurant and its interfaces. This dimension was significantly underrepresented in C2's practice as head chef: he had reduced relationships with external partners, did not take part to gastronomical events. Significantly media were silent about him and the restaurant during period 2 whereas they kept on reporting about gastronomic life in general and other restaurants. C2 concentrated on the kitchen in which he yet had to manage new dimensions, especially rhythm at the kitchen/dining room interface and became responsible for the renewal of the menu with the creation and implementation of new dishes. Interviews and our

observation pointed to important difficulties in this regard. In the kitchen C2 had trouble enforcing his new authority. This generated both organization problems (loss of fluidity, hesitations, conflicts…) and a deteriorated work climate (tension). These problems were also in relation with service in the dining room which flow became more chaotic generating back difficulties in the kitchen (rhythm of orders, expedition of plates). In the eye of Michelin, C2 was unable to maintain the three-star ranking and the restaurant was demoted to two stars as early as in the 2004 issue (Michelin, 2004). Most important among the reasons which made Michelin unconvinced about the restaurant was the cuisine itself. Although creative in the sense that the menu offered new dishes, C2's cuisine was judged awkward and ill-suited to the restaurant. "[C2's] initiatives […] especially the coconut risotto to be served with a [specific] champagne cuvee did not convince" (Le Monde, 2005). In fact if creativity is nowadays a prerequisite to maintain a position in haute cuisine (Beaugé 2008), misjudged novelties are definitely detrimental. Chefs are expected to create dishes up to their level of sophistication and perfection, in accordance with what the restaurant is. The 2005 Michelin issue confirmed the rating despites C2's efforts to regain a third star. These difficulties eventually drove C2 to leave the restaurant. During this period some cooks decided to leave the restaurant. Others stayed but afterwards explained us that they were on the verge of leaving when C2 himself left. It is, they say, their meeting with chef 3 which convinced them to stay. As in period 1 we synthesized our data in the form of Figure 2.
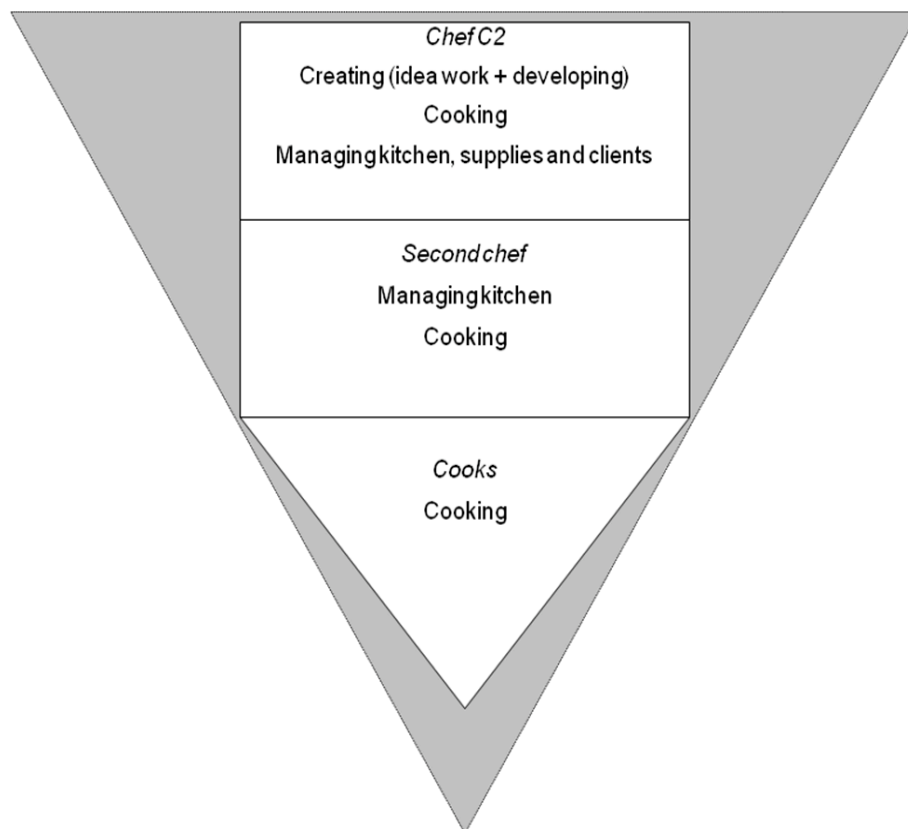

Figure 2: knowing in practice distribution in period 2

Opening the third period, C3 arrived at the restaurant in early 2005 appointed by the restaurant new owners.

3.3. Chef C3 and the third period

Although he is approximately the same age as C2, C3 did not choose to become a cook before his 18's. He was trained in three-star and premium restaurants during 15 years. He had also been in charge of founding new prestigious restaurants in various countries. When appointed head chef at the restaurant, C3 did understand the ranking challenge he faced although he was not preoccupied: "The third star is not an obsession but a goal. We know at which level we have to play to make it, but you have to take pleasure too" (L'Hotellerie Restauration, 2005).

In coherence with this view, C3 brought changes over years. He set up a new menu and cuisine (Le Monde, 2008) based both on terroir products (in line with the restaurant's tradition and clients' expectations) and on modern cuisine with precise cooking (based on his international experiences and design thinking). He simplified the menu, with a reduced choice and clearer prices. In accordance, he changed a few details in the dining room in order to lighten the overly classical style of the restaurant: more sober plates, new colors, new rugs… C3 also rapidly reorganized the kitchen for more fluidity. He formed a reduced team with those cooks who were in the restaurants for many years, some of whom on the verge of leaving he convinced to stay, especially a second-chef. He organized one kitchen team (instead of two) with two second-chefs in alternation, to serve a reduced number of guest (down from 120 to 80). In the kitchen, more tangible aspects also changed such as lighting or air temperature, which C3 arranged to make variable on demand in order to form a better work setting.

In the kitchen, we observed a very calm and friendly atmosphere with high concentration. C3 actively manages orders, rhythm and sometimes the pass. His stature and his clapping hands instead of yelling (to stimulate cooks or waiters) contribute to serenity in cooking and service both noticed by media (L'Express, 2006, Simon, 2007) and appreciated by the whole team (interviews). Many new dishes were created since 2005 and appeared on seasonal or thematic menus. Although C3 suggests new ideas for them, he involves his team in their development.

With these new dishes and cuisine, C3 attaches much importance to equally innovating and glorifying terroir products while "escaping the conventional neoclassical frame formerly imposed by the building" (Le Monde, 2008). Although Michelin confirmed the two-star ranking in its 2009 issue, C3's cuisine at the restaurant is now applauded and some even suggested that the guidebook should logically grant the ultimate award back (Le Monde, 2008). As in period 1 and 2 we synthesized our data in the form of Figure 3.
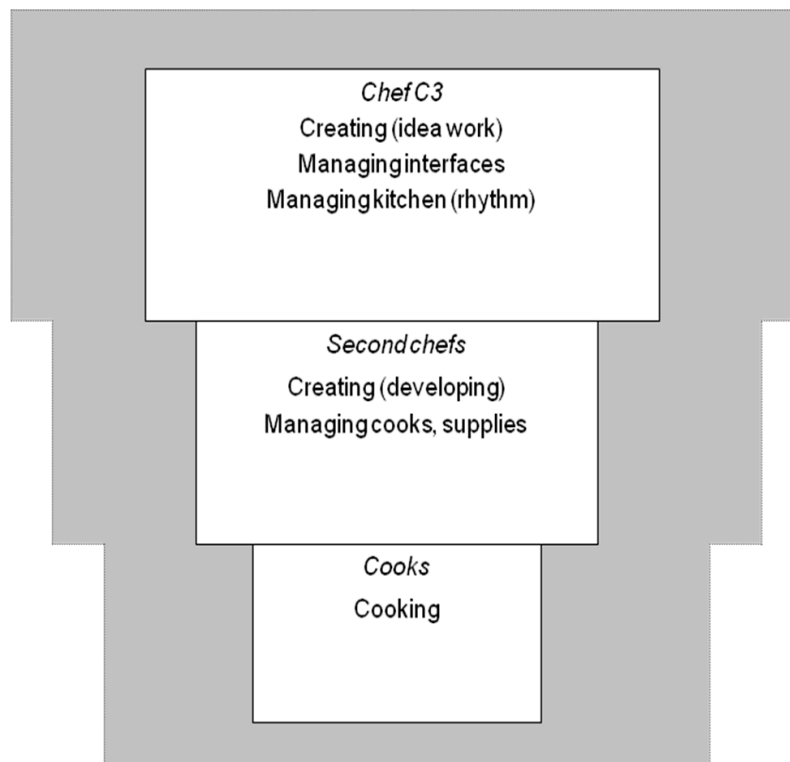
Figure 3: knowing distribution in period 3

3.4. The interplay between individual and collective dimensions of knowing in cooking.

Comparing our three pyramids highlights differences both in individual knowing and its relation to collective knowing and field.

Individual knowing of C1 and C3 appear rather similar, whereas that of C3 is significantly restricted to kitchen affairs. C2 did not achieve managing interfaces between the kitchen and dining-room, and between the restaurant and the field. Actually, C2's knowing barely evolved from what it was at his former kitchen chef position. Accordingly, knowing of seconds in period 3 is comparable to that of C2. The knowing of cooks in period 2 was also constrained because the conditions of kitchen work did not evolve properly.

In contrast (and although individuals are comparable in terms of age and Michelin stars), C3's knowing covers a larger spectrum. C3 grants lots of importance to managing interfaces, where he mobilizes and permanently develops specific knowing. He deals with major actors: local partners (champagne producers), medias and other chefs worldwide (daily phone contacts with other starred-chefs). Such interactions drive him to develop a reflexive view on his work, his cooking style. He theorizes on his view of gastronomy history, principles, and his position in and possible contribution to this field. This focus on interfaces is also salient inside the restaurant with his managing the dining room / kitchen interactions during setting. C3 rhythms the collective work of both sides, which is a critical aspect in starred restaurants. Being concerned with these core practices, he also leaves more space for seconds and cooks to exert and develop their own knowing in the kitchen. In the same vein, C3's practice of new dish creation is focused on idea work. He entrusts his seconds and team with developing ideas, proposing associations of ingredients and conducting trials to elaborate new dishes.

Seconds are also entrusted with supplies, which is an opportunity for developing their ordering, controlling and managing knowing. Last, cooks benefit from more autonomy and serenity in their daily cooking practices (with more mutual adjustment), which leaves more opportunity for their knowing development.

Such considerations drive us to examine in more details the transition between C1 and C2 in order to better understand how C2's knowing developed. In fact, C1 did prepare his retirement by involving his kitchen chef (future C2) in various tasks: supply, dialogue with clients, and participation to developing new dishes. He sincerely did try to teach him some of the rules: how to manage such an organization, its clients and suppliers, his vision of gastronomy. Yet at the same time, he also constrained the development of future C2's knowing. For example, C1 did not enable the participation of his kitchen chef in idea work and confined him to new dish development thus limiting the development of his creative knowing. In the same vein he enabled only a reduced dialogue with service and dining room and no involvement in extra-organizational activities (relationship with the press, travels, gastronomic events). In addition, C2 never sized the opportunity to develop such chef's knowing in another restaurant, whereas C3 did it through various experiences before arriving at the focal restaurant. C2 further recreated similar conditions in the kitchen, restricting knowing of his team. He elaborated fixed recipes the implementation of which was also pre-defined in the kitchen. Under his authority cooks and seconds had little opportunity of exerting and developing non-technical and technical knowing; in search of such opportunities, some of them chose to leave the restaurant.

From these considerations on individuals' knowing, it appears that different level dynamics are intertwined. In particular, comparing the three pyramids suggests that the possibility to develop one's knowing is in direct relation with the opportunity to practice, and the tasks performed in the kitchen as a whole. Those are themselves linked to the other individuals' practice and knowing. The development of individual knowing is therefore in direct relation with organizational practices, themselves dependant on individual knowing. The cook's position in the kitchen matters here. Their role in the team is essential but also their physical location as it conditions the possibility to observe and to follow the various interfaces between domains, between the kitchen and the dining room…

The role of the head chef is especially important here because he is the one who organizes work. With the opportunity given to his team to participate to one or another practice (creation, supply, management…), the chef creates spaces for knowing. On the other hand the chef's knowing is also in relation with the organization which it fits or misfits. Periods 1 and 3exhibit a fit: head chefs aligned individual's knowing, the organization and cooking. Although the restaurant is the same, C1 and C3 each achieved a unique fit. Chef 1 had a very classical style, in a classical setting, classical organization, and classical decorum, all heavily grounded on his classical gastronomic culture. In the same restaurant, Chef C3 positioned his cooking style differently, with a less classical style, targeting different clients and building on his specific world experience. However at the same time he uses the classics of regional gastronomy and reinterprets them. In this perspective, he plays the rules of haute cuisine as much as C1 did, but in a different way. In contrast, C2's knowing had not evolved in parallel with the field and C2 did not achieve a fit: impoverished knowing in the kitchen conflicted with the requirements of haute cuisine and with those of a classical style he did not appropriate.

It derives from these individual / organizational dynamics that knowing is an expansive phenomena.

First, the chef's knowing emerges as a limit to the other cooks' knowing. The more restrictive the chef's knowing, the less space it leaves for the development of other's knowing in the kitchen. Period 2 illustrates this aspect with the restricted practices of chef C2 and thus the limited opportunities of knowing for others. On the contrary the less restrictive the chef's knowing and the wider his practices, the more space for other's knowing development, as illustrated in period 3.

Second and in consequence, we cannot sum the various knowing represented in the kitchen up to a stable amount to be leveraged among the team. In other words, knowing in the kitchen (as an organization) varies according to individuals and the organization itself. Comparing the three periods indicates that whereas they are similar in terms of actors and desirable roles, they exhibit very different characteristics in this regard. In period 1 tasks in the kitchen were narrowly defined (especially between C1 and his kitchen chef), offering limited opportunities for future C2 and the kitchen team to participate to varied practices and exert/develop their knowing. Period 2 bears the fruits of and perpetuates such impoverishment, itself ultimately driving to internal dysfunctions and Michelin's sanction. These organizational effects themselves drove to further knowing impoverishment. In contrast, period 3 sets conditions for knowing expansion with multiple shared practices while roles and responsibilities are still defined and even unquestioned. Such shared practices are occasions for interaction, that is to say, for mobilizing, structuring and restructuring individual's knowing in relation to the team, the organization and the field. Being involved in shared practices such as creating new dishes or implementing them in the kitchen, cooks and seconds develop their technical and organizational (kitchen) knowing in relation to the restaurant but also to haute cuisine.

4. DISCUSSING CONCLUSION

Our case illustrates that some knowing remains individual because it is impossible to transfer. Even though the transmission can be prepared and the context favorable, some personal elements are indispensable. Chef C2's situation suggests that knowing is not only grounded in practice but is also rooted in personal dispositions. In coherence with Bourdieu's framework, dispositions are not necessarily innate, but linked to the background and the trajectory of the agent. C2's knowing was developed through his experience, which was developed in C1's cuisine only, and contrary to C3's. In this perspective, this proposition is opposed to that of scholars (especially Von Krogh and Nonaka 2000, Zollo and Winter 2002) who consider that we can create the conditions anabling knowledge transfer, where it be through socialization.

Our case also highlights that some forms of knowing are collective, mostly in technical issues: when the chef (for instance C3 who does it frequently) travels abroad, he lets the sous-chefs manage the restaurant during one or two weeks. It is then possible for them to transmit some forms of knowing and to share practice among the team. Cooks also move from one domain to another, which facilitates a collective form of knowing.

Our case also confirms that knowing is also closely tied to the context of the field. The field structures practice: its rules, its goals, its organization, its stakes. Cooking in a grand restaurant is very different from cooking in a home kitchen or in a non-gastronomic restaurant. Even the tools are specific (knife, oven, light…). As a

consequence, knowing is also shaped by this context. However, there is also the possibility for the chef to, through his knowing in practice, influence the evolution of the field, even if the temporality is different. Chef C1 trained many future chefs and influenced their practice. He also influenced other chefs through books, articles dealing with his cooking style and restaurant management. Chef C3 is also beginning to gain influence, through books he writes, travels in foreign countries, consulting for other chefs. Nevertheless, their influence can be observed only in the medium-long run, whereas the field structures their knowing in a day-to-day basis.

Future research could strengthen the role of the field in the interplay between individual and collective knowing by mobilizing other core concepts of Bourdieu's praxeology, such as capital, which allows to position agents in the field, to characterize their relative position and their possibility for practice at the same time as capital represents also stakes in practice. It could help to better explain the differences between our three chefs and also the differences with other cooks, while replacing their relationship in the context of the field of haute cuisine.

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