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### Organisational design for knowledge exchange: the Hau-Ba model<sup>1</sup>

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## ABSTRACT

The question of knowledge transfer has been a core interest for research and was mainly focused on the issue of its intrinsic nature. One of the main instruments used in the previous studies was the concept of Ba; this theory opened stimulating perspectives for understanding knowledge creation through knowledge transfer. As defined by Nonaka and Konno (1998), the concept while providing a strong understanding of the importance of obtaining dynamic interactions in the Ba, it didn't explain their modalities in analytical terms. In this chapter, we are providing an analytical framework for understanding the sequence of transfer of knowledge between members of professional communities. Doing so, we question the existence of a global organisational knowledge exchange system. This new topic in the Knowledge Management literature implicitly raises the important issue of organisational design and governance. Indeed, managing knowledge could become the talent of implementing spaces and animating communities of actors linked by common « spirit » and identity. In order to tie these dimensions together, a model is developed: the Hau-Ba theory (Bounfour, 2000, 2006) which is first presented in this paper from a theoretical point of view before being explored in the concrete setting of a community of Founders, within a large aluminium company.

**Keywords:** Knowledge transfer, recognition, community, gift exchange, Ba. Hau-Ba

## 1 Introduction: exploring space and spirit in knowledge sharing.

Considering the key role of knowledge in today's economy, knowledge transfer and knowledge creation have been the focus of many recent approaches. Among them, the fundamental Japanese "Ba" theory (Nonaka & Konno, 1998) supplies with interesting and innovative perspective on how the different dimensions of knowledge can be associated into a "spiral of transformations" that are responsible for knowledge creation. In this way, tacit and explicit knowledge can both be considered, depending on the context and quality of the interactions between the individuals involved. The places that hold and sustain these interactions are named the "Ba", and define the proper physical, mental and virtual spaces, or any combination of them, that enable specific knowledge transformations. However, this perspective is not totally clear when it comes to addressing the issue of Ba sequences. Four kinds of functional Ba come into play in the SECI Matrix (Nonaka 1994; Nonaka & Takeuchi, 1995), depending on the nature of the knowledge before and after transformation, but each Ba is not characterised from the analytical point of view.

We should remind that beyond transfer, an exchange is at stake between individuals who give and those who receive knowledge. A number of published articles deals with the concept of knowledge transfer (Berthon, 2003) and attempt to analyse its process inside each interaction, but very few consider the global exchange approach (Ferrary, 2003). Finally, none can be quoted when it comes to explaining the relationship between the dynamics of knowledge transfer and the "spirit" of

exchange that governs the actors.

In short, our research originates from the lack of explanation between the connection of the knowledge exchanges and the driving force behind them. We are questioning the logic of individuals' action that transfer knowledge, in order to explain how organisational communities grow, and develop their own memory. By understanding the interactions inside occupational communities, we hope to offer new leverages to managers in search of knowledge transfer incentives. In fact, this research can potentially facilitate management by proposing how to design / foster ad-hoc knowledge transfer spaces first. Secondly, it can highlight how to identify and increase the motivation of exchangers. As for research, we will propose an enriched version of the Ba theory, without separating the knowledge from its owner, the individuals. Between both concepts, it is where the Hau comes into play.

## 2 The Hau-Ba model

### 2.1 From the Ba concept to the community order perspective

The Ba theory has played a major role in the Japanese way of knowledge creation and it now has its place within the specialized jargon of Knowledge Management. The imprint of Japanese culture on this concept makes it difficult to understand with western languages. Translated into "strategic knowledge community" (Fayard, 2003), the concept loses the very first characteristic of being a "space" and not a governance mode. Nevertheless, we do retain the strong idea that such a place hosts the members of a community who interact and ex-

change knowledge organically and simultaneously.

In the same perspective, the consideration of the deep transformation of socio-economic systems and especially the re-emergence of the concept of a community for organising activities, leads to the question of the relationship between the communities' governance and the Ba (Bounfour, 2006). On a whole, questions such as "does a community emerge from a specific Ba deployment? Or does a community create its own Ba?" are raised. In every case, it is crucial to determine the sequence, between the physical, mental and virtual Ba that lead to the final equilibrium of a system where knowledge transfer could become endogenous.

## 2.2 From the community order perspective to the Hau theory

Introducing the unavoidable issue of individuals leads to the question of governance and social identity. This can be tied to the curiosity to understand why people from communities and inside the Ba, exchange their knowledge. This concern is directly linked to the second side of the model, the Hau theory that is derived from the initiator of the social exchange, the French Anthropologist Marcel Mauss (1950).

The Hau theory refers to the triple obligation of behaviour in primitive societies: the constraint to use, to circulate and give back exchanged objects or symbols. This tacit rule works as a way to transcend competition, war or conflict. The Maussian gift describes a dynamic of mutual recognition where the recipients are defied, leaving them with no other choice than to give back accordingly. This powerful strength of return is called the Hau or the spirit of the gift, the strength of the circulating thing. No economic value or timeframe are important in the social exchange where individuals are both free and obliged to give back. What is at stake in the rite remains closer to recognition than power.

Translated to the organisational scene, when companies seek to make the knowledge exchange practices as embedded in the innovation processes, such a rite becomes particularly interesting to understand if we want to achieve the ability to promote or institute spontaneous knowledge sharing into occupational communities. The discussion of the gift model to explain the knowledge exchange is not new in the literature (Ferrary, 2003; Alter 2006; Balkin & Richebé, 2007), and the association of the spirit of the exchange with the space of knowledge transfer has been implicitly evoked when Fayard notes: "Ba is fundamentally subjective and relational and one involves it because it is ruled by common interest and because there are no conflicts within human relationships" (2003, p. 26). Based on this, the Hau comes into play to provide the superior rule that is strong enough to erase conflicts, domination and enable involvement. Doing so, the first

connexion between the Hau and the Ba is established. But above all, we theorise the idea that the set of Maussian exchange rules is already rooted in the Ba, enabling both knowledge transfers and acknowledge (recognition) between members. Then, these members are part of "quasi-organic communities" (Bounfour, 2005, 2006) governed by the recognition principle (Honneth, 2000).

Finally, in order to be applied, the Hau rule must take into consideration "the equity feeling" (Adams, 1963; Wilkins & Ouchi, 1983) and at a more basic level, the respect of the psychological contract tacitly signed with the organisation. This raises another kind of social exchange established at a macro level between employees and managers that wraps the exchange of knowledge happening inside occupational communities. This characteristic brings forward the very last point that considers 'what' can play the role of the initial gift triggering both organisational (macro and meso) exchange processes.

## 2.3 The Hau and the Ba together

### 2.3.1 The question of sequences

The association of the Hau and the Ba theories cannot be connected without raising other path-dependant questions (Bounfour, 2006; Bounfour & Grefe, 2009). The first question challenges the nature of the relationship between the Hau and the Ba, requiring the precise determination of the building blocks of the model. The second question relates to the order of occurrence between the Hau phenomenon and the Ba transformations. Also, among and inside the Ba phases, we must consider which of the dimensions (physical, mental, virtual) appear first, and why.

Finally, we must determine if the whole three-step cycle of giving is present in an individual phase of Ba (e.g. the originating Ba, the interaction Ba). In regard to this last point, we have already suggested that every phase of the SECI matrix should match a dedicated cycle of exchange, since giving and receiving are associated to a single transfer. As for the gift-back, we propose that it must happen within a space that shares something in common with the Ba of the initial transfer. Saying so, we suggest that the space of the return is integrated into the concept of Ba.

Based on this, we present the idea that the space of interaction becomes a Ba after the action of the Hau. If some potential Ba pre-exists the Hau by hosting individuals who share a common will, it is the Hau phenomenon, which reveals the Ba. Indeed, the metamorphosis of the space into a Ba occurs once the transformation between the given, the received and the returned knowledge is observed.

In conclusion, finding out where the gift-back is delivered helps determine the exact perimeter of the Ba,

which is seen as an extended space. Here again, we suggest the theoretical proposal that if the gift and the receiving instances happen in a Ba, then the gift back is part of this same place. We consider that the return is the key for the transfer, as it makes it sustainable, maintaining the social link of recognition between exchangers. Its erases the debt and avoids people to feel contempt. In fact, playing the role of pacifier gives the return the legitimacy not only in the transfer but also in the definition of the Ba. In short, a Ba without the Hau imbedded inside it, cannot be conceived.

At this stage, we must consider several scenarios in which the Hau circulates into some Ba. Six different types of sequences can deploy themselves over time, before becoming a stable system where the Hau-Ba sustains endogenous knowledge flows and creation within a quasi-organic community.

*Sequence N°1: Physical Ba > Mental Ba > Virtual Ba*

Traditional human activities have been created, based on interaction in physical spaces, as they allow real contacts and recognition of others as similar. Workshops as physical Ba provide the opportunity to test, exchange, and build respect and confidence. Initial gifts can often initiate in it. Depending upon the type of activities, different physical Ba may be mobilised: shops, offices, cafeteria, meeting or conference rooms or transportation. In most of the activities, the physical Ba is a proven way of creating a mental Ba based on the “history” shared into it. The introduction of the Virtual Ba does not pose a problem, in an additional step, but the question of a full substitution to the two previous Ba might legitimately be assessed.

*Sequence N°2: Physical Ba > Virtual Ba > Mental Ba*

This sequence can be understood in different ways. First, in the case of organisations seeking to create a community based on the physical experience. In many manufacturing industries, this is still the dominant, and often the only, way of hiring new workers. The Physical Ba is the way to start, but a movement to the Virtual Ba does not work in this context. However, this kind of sequence is more frequently observed in ‘value added services’ activities, such as IT, consulting and all activities where freelancing and nomadic behaviour is a dominant way of carrying out activities.

*Sequence N°3: Virtual Ba > Physical Ba > Mental Ba*

This sequence refers to a context in which business relationships are initially built in virtual spaces. This might be the case for one off transactions, but also for permanent or semi-permanent transactions and/or relationships. The movement towards the physical Ba might be induced by the necessity for people to socialize more deeply before considering any other kind of cooperation. This might be the case, for instance, in residential seminars organised with the goal of reinforcing social links

among an ad hoc community (e.g. marketing teams or researchers).

*Sequence N°4: Virtual Ba > Mental Ba > Physical Ba*

This will certainly be the case for the new generations, for whom the virtual Ba is the reality of the world. In this case, the virtual Ba might be the preparatory phase for the mental Ba, which will be then followed by the physical Ba (e.g. social networking sites like Facebook).

*Sequence N°5: Mental Ba > Physical Ba > Virtual Ba*

This is a theoretical possibility. Can a mental Ba be a prerequisite to the physical or virtual Ba? A potential mental Ba can be imagined before the physical one (regarding the level of social proximity of future members of the exchange), but it is basically impossible to conceive an active one starting a set of sequences.

*Sequence N°6: Mental Ba > Virtual Ba > Physical Ba*

The same question is posed here. Stating that a mental Ba prior to the virtual Ba implies a spontaneous mental order, without any social interaction (in virtual or in physical spaces). Also, we should consider this sequence as more theoretical than observable in concrete settings.

In short, the objective is to discover which of the physical, mental or virtual Ba come into play first and if their role is temporary or permanent. The underlying idea is to suggest that some Ba are educational (e.g. training spaces for applying the exchange rules and implementing the Hau-Ba system) while others are fundamental, occasional or continuous.

On one hand, identifying the exact role of the physical Ba and which kind of physical Ba is needed to reinforce the social links necessary to sustain the knowledge transformations described in the SECI matrix constitutes one of the expected outputs.

On the other hand, determining when it is possible to substitute a physical Ba by a virtual one and understanding where the initial gift can be issued form also a key perspective. Such conclusions can help designing knowledge exchange systems within organisation that could potentially modify the kind of communities they are ready to host.

### 2.3.2 The central question of the mental Ba

When taking a theoretical point of view, the “Hau” can be fastened to the “Ba” and vice versa. The Ba theory tells us that it is important to allocate a singular place to the mental space in organisations, but intuitively, we can understand how fundamental this dimension is when it comes to transforming collective knowledge. As a matter of fact, cognitive connexions through collective memory are essential to perform these transformations. But, if the critical character of the mental dimension, as well as its difficulties, can be underlined easily, nothing is said, or guessed, about how to implement it. Only an

empiric approach can bring understanding to this question.

From a conceptual point of view, in regards to the “Hau-Ba”, it suggests a particular deployment of the mental space, and to a certain extent, the development of an advanced stage of that mental space when the Hau has become a part of the mental Ba. At this stage, the Hau is nothing but the rite of a quasi-organic community whose identity is composed of the grown-up mental Ba.

We can then define the “Hau-Ba” as a singular mode of articulating the gift exchange inside the knowledge transfer spaces. By suggesting this, we tie the “Hau-Ba” to the recognition principle considered earlier (Honneth, 2000). As a matter of fact, the Hau-Ba corresponds to a mode of collective action, in which mutual recognition is the fundamental principle for collective action.

Lastly, the contingency elements related to the community order have to be assessed, especially when its deployment happens inside the transactional order that characterise how organisations work. By transactional order, we mean the dominant economic order based on rationality and interest, that rules markets and societies (Bounfour, 2005, 2006). We oppose its inner logic of power with the fight for recognition (Honneth, 2000; Ricoeur, 2005) mainly achieved within “the communitarism” regime (Bounfour, 2005, 2006).

## 3 The Hau-Ba model in practice

### 3.1 Presentation of the empirical research

A longitudinal study based on participant observation, fed by an in-depth immersion, enables to explore the Hau-Ba like ethnographers, in an aluminium foundry.

#### 3.1.1 Description of the field of research: a community of workers in an old foundry

The organization used for the research is facing a critical issue related to the loss of its memory at the time of our initial commitment. The departure of many workers over the years, in conjunction with various restructuring plans and the baby-boomer phenomena, explain that the company is losing a large set of skills, expertise and experience from its shop-floor.

At the same time, recruiting, and above all, retaining people in the jobs is becoming more and more of a challenge for managers when blue-collars positions do not attract the young generations anymore.

Furthermore, much like mining and miners, a foundry is characterized by the pride of the people who work in the industry. If pride is not felt right at the beginning of the integration process, or even worse, if the occupation is not respected enough, the acceptance of

the newcomer is difficult, if not impossible. Nevertheless, the need for transferring the occupational memory becomes urgent when the headquarters decided on the revival of the foundry after the closure of another plant, whose activity had to be taken over. This new project brings the perspective of development but it also presents the organization a new challenge. It not only has to recruit workers but it has to transfer the knowledge from senior employees to twenty newcomers.

#### 3.1.2 Questions of research

In the context characterized by a situation of knowledge transfer between two generations of workers, the problematic is organized around two primary driving questions.

The first question deals with the definition of the knowledge that is at stake in the exchange: in our case, the problem is to identify what constitutes the “occupational memory”. This initial step is fundamental to understand what knowledge (critical? intensive? superficial? tacit? explicit? personal? collective? official?) is at stake in the exchange.

The second question is focused on the Hau cycle and the discovery of the social rite of the gift. Five sub-categories have to be addressed:

- Is the knowledge identified as part of the transferred (given) memory?
- Is this knowledge well received (e.g effectively used by new hired comers)?
- Is any knowledge returned (new knowledge creation)?
- Is anything else returned (symbols, things, etc.)?
- What is the content of the initial gift? Who is responsible for it? The third question concerns the characterisation of the spaces of the transfer and exchange. Thus, we observe what kinds of “Ba” are mobilised at different phases of the exchange:
- Are any physical, mental or virtual spaces identifiable and what are their sequences?
- Do they hold any kind of transfer characterized by the SECI matrix? (What is their nature: original, interacting, cybernetics, exercise?)
- Is the gift back contained in the Ba? The fourth question aims at analysing the logics of actions and governance subjacent to the exchange, in a final question, split into two sub-categories:
- What is the exchange paradigm shared by the actors? (What are the motivations behind the scene

of the exchange cycle? How do the actors build the common principle for exchanging?)

- To which organisational modes do they belong? (Is the concept of “community order” the right one?)

A fifth and transversal question is also continuously posed, related to the contingencies, specific to the field of research. Two major ones emerge from the initial phases of the research: the survival feeling that exists within in-danger industries and the concept of occupation (skills level). In order to fully answer to this set of questions, we compare this case with a second one embedded into the same organisation but related to another occupation (aluminium hard extrusion) made of engineers and searchers. The work is not exposed in this article.

## 3.2 Methodology

### 3.2.1 An ethnographic exploration

In order to build the model, we choose to proceed from “the gift to the Ba and from the Ba to the gift-back”. This means that we start with the identification of the knowledge transfers (the most obvious observable facts) that also define the typical Ba. Then, it becomes possible to search the possible returns that maintain these Ba as spaces for positive social interactions.

We also opt to explore the Hau-Ba dimensions via a qualitative approach based on coding. This protocol enables to identify the Hau from the sharing of the same symbolic meaning by the three instances of the gift (giving, receiving and returning). The assets involved in the instances are identified into particular Ba, for every stage of the transfer. The meta meaning of the exchange, or the spirit of the gift (the Hau) is seen as the atmosphere of these Ba. It means that understanding a Ba (why a Ba releases such an atmosphere, based on which emotions, motivations or shared meanings) helps to figure out the Hau.

In order to collect the data, we spend 18 months in the foundry, attending to the foundry daily production and observing the different stages of the integration process of twelve newcomers. We decide to adapt the “3A” methodology created by Poitou (1997). In order to do so, we interview eight experienced workers for three days each. They describe and explain each step of the process within the foundry. After the initial collection of material that shapes the occupation memory, we are able to establish the list of the necessary knowledge required in order to practice the occupation as a professional. Based on these lists, we can also track which pieces of memory are actually transferred effectively, to whom, when, and where. We consider the knowledge transfer confirmed when the apprentice puts it to use.

Whenever it becomes necessary, we interview the people involved in the transfer: 51 individuals are part of the total investigation.

In parallel, we document all the significant events that occur during the time of the immersion. By significant events, we are referring to every relevant interaction observed between the new and old workers but also innovations or collective decisions. Then, based on their analysis and on the spaces where they transpired, we are able to identify what will work as a return. The final step is to gather a gift, with a reception, and a gift-back to compose what we call a “triad”.

For each triad, the gift-back works as another side of the transfer: by displaying symbolic or concrete “acknowledgement of knowledge transfer”, it ensures the sustainability of the equity feeling: the transfer from the givers can go on. When they feel appropriately recognized, the givers are ready to pursue the gift.

### 3.2.2 A process analysis

The triads are identified using a synthetic chronological matrix. Its columns match gifts, receipts and returns that are coded into each Ba for every SECI phase along the 18 months.

Six periods emerged from the issue of the initial gift (P0), through the completion of the initial four SECI phases (P1 to P5), ended by the stabilisation of the Hau-Ba system when fully deployed after P5. We conclude that the Hau-Ba not only needs a time for initialisation (P0), but a whole completed SECI spiral to become a community system:

- where all the individuals are givers who recognise each others as community members while exchanging;
- where giving and returning are totally merged;
- where giving and returning assets are both made of knowledge.

### 3.2.3 The mental Ba difficulty

The protocol leads to the determination of a piece of the mental Ba from the “gift exchange paradigm” (Caillé & al., 1996; Caillé, 2007). The gift exchange paradigm can be seen as the mental space that gathers the common motivators for exchange between givers and receivers. It is also associated to the meta meaning that the gift instances symbolise to the exchange partners. The secondary side of the mental stage is slowly defined through the new created collective memory that emerges from the SECI matrix phases. In the end, the definitive and cumulative mental Ba appears as the occupational identity (made up

of a status, a culture and an expertise linked to a memory) that deploys itself into successive physical Ba.

Finally, the research process works as the interpretation of the Hau mechanisms through one mental Ba generation from multiple physical Ba activities. As a result and temporary conclusions, four emerging phenomena are dependant to the Hau-Ba connexion and to the generation of the mental Ba :

- A relay between two generations of workers;
- The reinforcement of the psychological contracts that link the exchange partners with their organisation;
- The rejuvenation of the occupational memory mainly composed by tacit knowledge;
- The rebirth of a community defined by one rite (the Hau) and a new occupational identity.

### 3.3 Output of the research: a specific model from the Hau-Ba theory

#### 3.3.1 In-the-field preliminary actions

##### The implementation of a tutorial system

From survey results, we document that newcomers believe that on-the-job employees are not involved in their training. The experts do not feel any recognition for their transmission of memory from the organization. If they consider knowledge transfer a duty, they want it be officially recognized for this role. The middle management take this request under consideration; as a result, they build a tutorial system and nominate specific tutors.

The return to a practice from the “glory years” is a way to reconcile “survivors” with their past. It also refreshes their memory that they all belong to a historic, prestigious and glorious company. The sense of pride is revived, reminding the seniors the value of their jobs in the French industrial context. All these aspects construct a very strong job identity, shared by a “community”. First, the foundry workers can be called a “community of blood” (Tönnies, 1977) since most of them have come from the same village, for many years. It is less true with the newcomers; but most of the old generation shared the same roots. Secondly, it can be seen as a community of space also (Tönnies, 1977): they all share the same shop floor and face the dangers together working the furnaces. They use a common space in order to work in tight coordination. Finally, we can evoke a community of spirit (Tönnies, 1977) when they develop a common social identity. Belonging to the same historic organization/industry, being involved in union activities and sharing a similar job with very specific occupational characteristics (danger, nobility) all help build

a strong feeling of belonging and a strong social identity. Then, we can declare the foundry workers a community per se. But can a community whose identity has been threatened and weakened after years of lay-offs (Sainsaulieu, 1985; Boisseroles de Saint-Jullien, 2005) be still so called? The open question is to figure out if this community can be reborn, integrating new members who do not share the same characteristics. In short, what is at stake is the capacity for a group with a historic identity, to develop new organic links between members, thanks to a specific social and knowledge exchange (Blau, 1964; Alter, 2006; Ferrary, 2003). This would generate a new identity as effects of mutual recognition, for both old and new foundry workers, all peers from now.

#### The trigger of the Hau-Ba system: the original gift

The first result of the tutorial system is to restore positively the psychological contract tacitly established within the organization (Delobbe & al., 2005). Indeed, once nominated as “tutors”, the senior employees involved in the training process feel that equity is respected again. They consider it a duty to help the new generation take over the trade secrets that can only be given to who deserve them. For the old generation, owning the “tutor title” is an opportunity to leave a legacy, but without disappearing or “being erased” by their own gift. On the contrary, turning into a tutor seems the right way to officialise the value of a career, which is nearly a life. After 25 to 30 years spent in the same plant, passing on their experience is considered a way to legitimise their whole commitment. It is seen as a necessary gift (this word “gift” is formulated in interviews) to the newcomers as far as they understand that the trade is respectable. They would not risk the gift, if both the organisation and the apprentices did not recognize it. The organization has to show explicit signs of recognition of this potential gift. This recognition, from the management, can be seen as the “original gift” that triggers another exchange, between workers.

As for the apprentices, they have to quickly return at least signs of gratitude (knowledge is not possible yet due to a too big gap between expertises): they have to give back (even intermediary symbolic signs, as Mauss could accept them in his early theory), or leave the factory.

Coming back to the original gift, we note that it concerns both tutors and newcomers. For them, the initial gift (that makes the newcomers act as “receivers”) is to give the promise of a long-term job, after a successful training period. At the end, we can conclude that both trainers and trainees are sharing a same paradigm: the “occupation” desire (Osty, 2003), expression of the need of (re)developing a social identity.

Table 1: The architecture of the empirical research

*Exploring the Hau-Ba with a grounded theory (Strauss & Corbin, 1990) and an ethnographic approach.*

*Contingencies of case 1: survival feeling, operator status, historical trade (Osty, 2003, 2005; Osty & Dahan-Seltzer, 2006).*

<p><b>Step1: What is the knowledge potentially involved in the exchange?</b></p>	<p><b>Step 2: Do giving and receiving knowledge work as an effective transfer?</b></p>	<p><b>Step 3: What are the Ba that hold this effective transfer?</b></p>	<p><b>Step 4: Is there any gift returned in the Ba, sharing the same “paradigm” of exchange?</b></p>
<p><i>Analysis of the occupational memory</i></p>	<p><i>Analysis of the motivations for giving and receiving: do they share a meta meaning? (paradigm of exchange) Analysis of the use of the transferred knowledge: false or real usage?</i></p> <p><i>Conclusion: the first two instances of the Gift come with an effective knowledge transfer</i></p>	<p><i>Analysis of the spaces where the gift and the receipt (use) happen. Can the transformations be done only into a physical Ba? Is there a mental Ba behind that can justify complex cognitive transformation?</i></p> <p><i>Conclusion: a mental Ba made of collective memory develops itself on the basis of the practical physical Ba.</i></p>	<p><i>Record all the significant events that happen during the transfer (18 months). Analysis of potential returns (what kind? Where? Why?)</i></p> <p><i>Conclusion: the gift-back works as another side of the transfer:</i></p>
<p>Pre-requisite: Building a knowledge mapping (Ermine, 2000) based on archive and expertise owned by the seniors.</p>	<p>Is the transfer effective and efficient? Is the knowledge used by the new comers?</p>	<p>Analysis of their dimension (physical, mental, virtual?)</p>	<p>Condition: potential returns must occur in the same Ba as the initial gift and receiving instances. Then, we must assess and compare the motivation between giving, receiving and returning such assets.</p>
<p>Adaptation of the “3A method” (Poitou, 1996)</p>	<p>➔ Analysis of the causes for departures from the job</p> <p>➔ Analysis of the motivations for staying at the job with the ones who stay, is there any new transfer that starts?</p> <p>➔ Analysis of the questions, ideas, new routines developed and identification of other SECI steps.</p>	<p>➔ Analysis of their nature: what transformation happened in each Ba regarding to the SECI matrix?</p> <p>➔ What do they need to happen? (as a way to deduce the hollow presence of the mental Ba)</p>	<p>➔ Does a common “meta” motivation appear to characterize the paradigm of the gift exchange?</p>
<p>Coding (Miles and Huberman, 2003) of the identified experts knowledge (Girod, 1995)</p>	<p>Coding of the “received” knowledge (newcomers); of the new given knowledge from both tutors and newcomers (happening after the gift of memory)</p>	<p>Coding of the physical and mental Ba holding the transfer or transforming the knowledge</p>	<p>Interviews with the actors, coding of their answers. Coding of the assets confirmed as returns.</p>

**From P0 to P5 : the articulation of the Hau-Ba system through the completion of an initial SECI matrix**



### 3.3.2 The Hau-Ba in action

#### The start of the Hau-Ba system: the initiatory gifts of phase 1

First, “poor” gifts from the tutors are noticeable. Indeed, acting like a test, the early gift deals with declarative and procedural knowledge (Girod-Seville, 1995), a kind of “easy to hold” memory. No tacit or personal knowledge is at stake in this stage. This knowledge transfer happens in the “cold area” of the foundry, which is separated from the real life of foundry workers community.

The main life happens in the “hot area”, close to the molten metal, near the furnaces, during casting phases. In the cold area, a tutor with vast experience spends three months with the newcomers. They are delivering the key messages on safety and molten metal knowledge. The initial three months are absolutely critical in the integration process and most of the employee departures happen during this initial phase.

Departures intervene according to one of two modalities:

- The new employee can initiate the departure:
  - They realize the danger
  - They learn the conditions associated with being part of the community: (facing the danger, dominating the fear.)
  - They simply cannot adjust to the job, and leave.
- The tutor can also initiate the departure.

Testing the ability of the newcomers to receive the gift, the tutors decide if they can be trusted, based on the way they use the given knowledge. Before receiving the trade secrets in the hot area (the “critical knowledge”), tutors reject both the trainees who do not use the knowledge well and the ones who do not give back the signs or the confirmation that they respect the exchange.

Table 2: First phase of primary socialization

Gift	Explicit and tacit non-critical knowledge	Primary original Ba made of: Physical practical Ba (cold area)
Receiving	Applying the knowledge with professionalism	
Return	Respect and humility signs	

Two groups: senior employees and junior trainees (inter-group exchange)

In this primary, original Ba, there is no risk of knowledge waste because the training is started in the most basic area. They may sacrifice some “trivial knowledge” to test the ability of the recipient to be a ‘receiver’. At this stage, we cannot speak about a full Maussian gift model. The newcomer is not asked to give back, except for the attitude that we will endow them with the communities trust: essentially the respect for the trade and the initial knowledge that was given to them. This also implicitly means that the recipients acknowledge the Hau by respecting the gift tacit rule. Humility, respect and the desire to do well are summed up with the right mind-set by the future member of the community. Indeed, integrating the hot side of the foundry is a step towards the acceptance in the group of experienced casting workers. There they are going to transfer the ultimate knowledge, the richer knowledge in terms of tacit and personal dimensions (Polanyi, 1983; Winter, 1987), and the knowledge that cannot be transferred without high social interactions.

#### The total Hau-Ba system: SECI completion and micro gifts cycles

At the very beginning, the newcomers only observe the process. They learn how to alleviate their fear and to interpret the codes used between workers. These codes are used to work in synchronisation; often in conditions where no words are spoken. This close interaction takes place in the space composed by the furnaces and that can be associated to a second physical Ba. We can tell that its sharing supports the secondary socialization (phase 1 in the SECI matrix of Nonaka & Takeuchi, 1995, pp. 71-72, p. 89). It should also be noted that this physical Ba would only work temporarily if a second one did not exist to support the following phases of the knowledge transfer and creation.

In fact, we are saying that another Ba must be developed, this time a mental one, in order to sustain the transformation of the next SECI phases. Here, a mental Ba, made of “collective memory” is being built, thanks to the interactions in the physical Ba.

Through the sharing of an emotional climate, the individuals who exchange live a common emotion, which appears as a characteristic of the identity of the emerging community.

Indeed, in the hot section, danger is omnipresent. Lethal injury due to explosions and burns are always possible. Workers must stay absolutely vigilant, secure and maintain the ability to control their own fear. Then, between acceptance and denial, the casting workers dominate their fear and never even allude to it: showing fear is tacitly forbidden or the whole psychological balance of the team would be disturbed.

The newcomers who are receiving the “trade secrets” on the hot side give obvious proof of membership by

accepting to assist the furnace pilots during the casting operation. If they are not ready to express a form of self-confidence at this stage, the ones who are not able to share this mental Ba cannot be part of the knowledge exchanges anymore. They all finish by leaving the foundry.

Table 3: The second phase: the secondary socialization

Gift	Tacit highly critical knowledge	Secondary original Ba, made of the combination of: Physical practical Ba: hot area Mental Ba (arousing): collective memory (emotional climate shared)
Receiving	Applying the knowledge, denying the danger.	
Return	Accepting the job offer after the temporary contract (long term contract agreement: CDI)	

Emerging occupational community

At the same time, other types of interactions have been noticed within other spaces.

During breaks and social time, in the refectory, the newcomers use the opportunity to ask questions and make tutors talk about what they cannot exchange during the operations (the protective gear prevents from speaking in the hot area). Tacit knowledge is transformed into explicit one via questions and comments. At this stage, the reception is prior the gift: asking a question can be considered as a way to receive a knowledge which is not transferred yet, but which is expected.

In order to transform the tacit knowledge into explicit knowledge, the physical Ba is not enough. The location of interaction is disconnected from the reality of the trade; cooperation in action is no longer possible. At this stage, individuals rely on the mental Ba to understand each other and transform tacit knowledge. This Ba is made of collective memory, which sustains the cognitive process of knowledge transformation and creation. While active, the mental Ba becomes self-perpetuating, continuously building new collective memory.

Social time is also rich in 'returns'. By sharing social events, such as a sport challenge, a strike, the epiphany or a retirement celebration, the younger generation gives back socially. They honour the seniors and bring back pride to the trade (winning a sports challenge in the name of the foundry, building miniature casting tools as a gift for the tutors who retire, cooking pastries to celebrate the "kings" of epiphany). In a word, they give back symbols to honour the givers, while both tutors and

newcomers experience the pleasure of conviviality. At this stage and thanks to the establishment of strong social links, the emerging of a community is confirmed.

Table 4: The third phase of externalization

Gift	Answers (explicit knowledge)	Interacting Ba made of the combination of: Physical Ba: social places (refectory, outside of the factor: places apart the workshop) Mental Ba (active): collective memory transforms received knowledge and increases itself)
Receiving	Questions (explicit knowledge)	
Return	Symbols of honour	

Confirmed occupational community

Almost 18 months after the early phase of primary socialisation, we discover a new phase around work place innovations. This occurs when the younger works have learned enough to earn the status of the Giver.

The young foundry workers develop ideas on ergonomics and security. If these first gifts seem modest, they do not hurt the hierarchy of expertise and they do not defy the old experts. In this way, they maintain the alliance and organic exchange started at the beginning but establish that they are now also peers with their tutors. The situation is the one of a new community without differentiation among members.

The experts acknowledge this situation by receiving the gifts of the young workers. In order to do so without any ambiguity, they recognize the innovations, by alluding to them in official meetings with managers or during theoretical courses. As a matter of fact, experts decide to attend to the training sessions organised for the juniors and use this time to show that not only they respect their ideas, but that they need to learn also.

At this stage, new peers are exchanging knowledge during conversion phases inside specific spaces. These spaces, in the workshop, are also determined by a specific time: they are active when the trade is "off", during the time of maintenance, cleansing, training: while individuals are still inspired by the physical presence of the trade, but while they can also think and communicate. We can allude to a "subliminal" presence of the trade here.

Furthermore, it is important to notice that when parity is at stake, the older generation chooses to reject the "black sheeps" who do not accept the new consensus. For example, two older workers known for passive resistance are laid off without the defence of the unions that tacitly approve. This is a rare position and a strong

proof of cohesion: implicitly, the older workers support the future of the foundry and “help” the younger generation to win the challenge after the transfer of activity for the closed factory.

Table 5: The fourth phase: a phase of conversion

Gift	Innovation	Cybernetic Ba made of the
Receiving	Approval and official agreement. Routines changed.	combination of: Physical Ba: workshop (not during production)
Return	Exclusion of the “black sheep”: protection of the new community of peers.	Mental Ba (active): collective memory (stronger with parity feeling added)

Grown-up occupational community (made of peers)

Finally, a last phase can be described through the development of new collective competencies. All the transferred knowledge in prior phases is turned into tacit memory and become intrinsic. Knowledge transfer is endogenous to the community, giving and giving back happen all the time during cooperation and coordination. By adjusting to each other, people integrate the gift and reply by producing the right competence: the one, which is at the same time efficient and secure.

Table 6: The last phase of internalization:

Gift	Know-how (competence)	Exercising Ba made of the combination of: Physical Ba: workshop (during production) Mental Ba (active): collective memory (saved and enriched) and social (trade) identity.
Receiving	Integrate other’s actions	
Return	Adjustment: coordinated know-how (competence)	

Occupational community defined as a quasi organic community

The Hau is fully integrated in the mental Ba: It is a cultural rite that defines the community identity. Starting from now, knowledge exchanges are totally invisible. Giving is endogenous to a community embedded into the organization with which another social exchange is performed. Here comes into play the threat of the Hau-Ba system: how can such a network (Callon &

Latour, 1991) last when it is highly submitted to the ways the organization and the society “recognize the recognizers” (Caillé, 2007; Osty & Dahan-Seltzer, 2006)?

#### 4 Conclusion. A Hau-Ba, built with the sequence: Physical Ba – Mental Ba along an initial SECI spiral

Through the completion of the SECI matrix and the development of the four Ba described by Nonaka (1988), the case illustrates the example of a knowledge exchange ruled by the Hau. It also demonstrates that the articulation of the Hau within the Ba produces the rebirth of a quasi-organic community, which means a community, governed by recognition principles (Bounfour, 2006). As a matter of fact, the Hau works as the social link (Godbout, 2007) that enables individuals to see each other as subjects. Applied to a “prestigious good” like knowledge, the Hau definitively carries some of the spirit of the giver and works in order to make the exchange look like Mauss was describing it. Enforcing its meta rule to the individuals involved in the dynamic of the reciprocity, the gift contributes to subordinate (without erasing it) the logic of dominance under the logic of recognition.

This case also shows that a Maussian gift is not only possible in organisations but that it is also embedded in a wider social exchange conducted with the organization itself which appears to be responsible for the issue of the initial gift. But this means also a weakness of the exchange system that we describe: how can we be sure that organisations know how to receive the return and send back new recognition accordingly? Stated differently, once the community becomes competent, its returns take the shape of new gifts towards the organisation. At this stage, the question of the meta recognition of the community members cannot be avoided.

Furthermore, we can tell that the Hau-Ba is able to retain the occupational cognitive inheritance of the foundry but additionally can develop a new form of collective memory through the mental Ba that arises from the physical Ba.

Once it is developed, the mental Ba becomes a major place for knowledge transformations. This operation can be also conducted by a strong but specific physical Ba: the hot area, where the trade is in action, near danger, requiring tacit cooperation. In this case, the role of the practical physical Ba is definitively over-sized. If a practical Ba seems to be the closest to the concept of “Basho” where Nishida’s pure experience is possible, we must keep in mind that every occupation or activity is not necessarily embedded into such powerful spaces. Nevertheless, we need to recall that implementing practical places or anything that can reproduce its specific

atmosphere (Maffesoli, 2005) seems to be key when it comes to inciting tacit knowledge transfer and organic relationships, as we understand that one does not work without the other.

At the completion of the first SECI spiral, the group is a community (all the members are givers, and peers) that is capable of producing competent actions: this means that improvisation is now possible (Erden & al., 2008). This is key when an incident happens.

Once the mental Ba is fully grown-up into deployed physical Ba, the community is mature enough to produce an endogenous gift: giving and returning are invisible, one is working for the other constantly. At this stage, the Hau is part of the mental Ba, as an adopted rite: we can speak of a superior mental Ba that is the fundamental dimension of the Hau-Ba system. As a matter of fact, when the Hau, as a part of this mental Ba, is what produces the cognition and recognition exchange, it contributes to the development of the mental Ba after each cycle of gift. In other words, once the Hau-Ba is connected and realised by members of a community, the system reaches autopoiesis : the system is able to reproduce itself.

Returning to the question of sequence and on a narrower but concrete perspective, we can conclude that the physical Ba acts as a communicational Ba necessary for initiating the gift and exchanging its following assets. Above all, it is confirmed as the essential place for socialising. As far as the mental Ba, its involvement in the transformation process of knowledge is a key. It is also the one that ensures its sustainability. If the virtual Ba does not play a role in this case (an experimental attempt has failed), we can suggest pursuing the research in other backgrounds than manual workers, where the physical Ba could be replaced by a virtual one after the time of initialisation. In this way, we can definitely see a major role for information systems, in order to relocate the interactions of a physical Ba in a virtual environment, allowing remote and thus potentially, a wider and easier exchange.

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