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Materializing the Immaterial: Relational Movements in a Perfume's Becoming

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Abstract: In artistic perfumery, new perfumes are not based on last year's top sellers, but on original, often unconventional ideas such as making a perfume that smells like melancholy. While this can sound promising to potential consumers, it poses a real challenge to the actors involved in the product development process: they need to organize their work in such a way that the immaterial, often deeply personal emotion can materialize into a concrete product. The chapter presents data from longitudinal, qualitative research on perfume making in artistic perfumery and outlines how the question of materializing the immaterial is approached by the creative director and two perfumers. Central to its findings is a visual concept that serves as a material representation of the emotion. Throughout the process, it takes on different roles in response to the specific situational challenges (boundaries) and relationships in which it is embedded. Together, they define the relational movements that are necessary for the product's becoming. The authors discuss insights and implications for understanding how materiality comes to matter in organization studies.

4.1 Introduction

Most product developments start out as ideas which need to be materialized in order to become new products. The recent turn to materiality in organization studies (Schatzki, 2006; Orlikowski, 2007; Orlikowski and Scott, 2008) has led to considerable research attention towards materiality (objects, infrastructure) and how it can support knowledge sharing, collaboration, and coordination

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(Carlile, 2002, 2004; Bechky, 2003; Kellogg et al., 2006; Orlikowski, 2007; Nicolini et al., 2012) in research areas such as product development. However, less attention has been paid to the question of how people organize the means of achieving the materialization of products, that is, the question of how new products move from the “world of imagination” into the “world of concrete objects” (Aspelund, 2006). In this chapter, we adopt a sociomaterial understanding of organizing (Orlikowski, 2007; Orlikowski and Scott, 2008) and build on research that considers the importance of materiality and boundaries in new product development (Carlile, 2002, 2004; Bechky, 2003; Ewenstein and Whyte, 2009; Nicolini et al., 2012) to help explain how immaterial, highly personal ideas can be materialized.

To make our argument, we draw from ongoing, longitudinal qualitative research on the material practices of perfume making in the emerging field of artistic perfumery. This growing niche market is characterized by conceptually advanced and experimental fragrances that serve highly symbolic functions. Among its European actors is Humiecki & Graef, a label that is known for its “unconventional concepts behind the highly individual perfume creations [which each] reflect a different facet of the entire spectrum of human emotion—from fury to elation” (<http://www.fragrantica.com/designers/Humiecki-%26-Graef.html>).

We were able to accompany one complete perfume development process at Humiecki & Graef and their collaborators (perfumers, photographers, packaging designers) and are currently engaged in data collection for a second perfume making process. At the beginning of each perfume's development, the creative director chooses an emotion that serves as a basic idea for the new perfume. During the development process, this emotion which usually shows a close link to the creative director's personal experience is first materialized in the shape of a visual concept by the creative director, before it is then translated into an olfactory expression by the perfumers. The challenge is therefore to translate the highly personal, emotional experience into a visual representation and the visual into an olfactory representation. Our research questions focus on the material practices that enable the materialization of the idea and on the materiality that is produced and used during the process. Central to our findings is the visual concept that provides a representation of the emotion for the creative director and the perfumers. Even though the actors show different interpretations of it, the visual concept is readable to all of them and seems to appeal to a shared sensibility that enables mutual understanding (Ewenstein and Whyte, 2007). Our findings also show that the role and function of the visual concept change throughout the process as a consequence of

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situational challenges (boundaries) and the nexus of relationships in which it is embedded. Together, they define the movements that are necessary for the object to span existing boundaries and enable the materialization process. By focusing on the processes that lead to the product's becoming, we hope to contribute to existing knowledge in new product development and to a process perspective in organization studies more generally.

- First, by considering the processes of perfume making in artistic perfumery, our findings are able to shed light on how people organize as they work on products that need to cross deeply personal (emotional), visual, and olfactory boundaries. These boundaries have largely remained unexplored in organization studies and contribute to our understanding of how artistic or creative products are developed. The findings also highlight that visual materiality is able to span these boundaries and might therefore play a central role in the materialization of ideas, emotions, and personal experiences. In light of the popularity of the creative industries (Lampel et al., 2000) which “live on ideas” (Howkins, 2002), we believe that personal and sensory boundaries as well as the visual, aesthetic, or emotional functioning of materiality will play an increasingly important role in organization studies and (creative) product development processes.
- Second, by considering *when* and *how* the visual material changes its role during the process, the chapter responds to the recent call to specify the reasons for object transitions (Nicolini et al., 2012). It adds to our understanding of materiality by introducing the notion of *relational movements*. We illustrate that situational challenges (boundaries) and actor constellations require specific movements in order for the process to proceed. The visual concept is able to support these movements and gains its agency from the relationships in which it is embedded. Building on a relational process view of organizing (Langley and Tsoukas, 2010) and the notion of relational materiality (Law, 2002, 2004) we conclude that materiality matters as a consequence of its web of relationships and the relational movements that it enables.

We start with a brief overview of the role and function of objects in organization studies and then focus on the research area of new product development to highlight the ability of objects to span boundaries. After surveying current literature on the topic, we turn to our empirical case. Data are provided from three moments in time, to illustrate the process of the perfume's becoming. We show how the visual concept enables the immaterial idea to move across personal (emotional), visual, and olfactory boundaries ~~in order to be materialized in a product~~. We conclude with a

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discussion of the new insights and implications for understanding how materiality matters in organization studies.

4.2 Objects as materiality: different roles and functions

The “turn to things” (Preda, 1999) has led to considerable research attention on how practices in organization studies are not only socially or discursively constructed, but solidly bound up with materiality (e.g., Preda, 1999; Cooren, 2004; Orlikowski, 2007). A common form of materiality in organization studies is the object. Objects are thought to play a decisive role in organizational processes, such as change or organizational learning (Wenger 2000), cross-disciplinary collaboration (Carlile, 2002, 2004; Bechky, 2003; Nicolini et al., 2012), coordination (Kellogg et al., 2006), or identity construction (Simpson and Carroll, 2008). Examples of objects that have been studied so far include timetable charts (Yakura, 2002), texts and documents (Preda, 1999; Cooren, 2004), photocopiers (Suchman, 2005), visual representations such as drawings, diagrams, and sketches (Henderson 1991, 1999; Ewenstein and Whyte, 2009), and prototypes (Bechky, 2003). Based on a comprehensive review of the literature, Rafaeli and Vilnai-Yavetz (2004) argue that objects have three functions in organizations: instrumental, symbolic, and aesthetic. In coordination research, most objects fulfill an instrumental function (Okhuysen and Bechky, 2009), which include the enabling of communication, the motivation or activation of collaboration, and the mediation, translation, representation, or transformation of ideas, knowledge, and interests (Carlile, 2002, 2004; Boujut and Blanco, 2003; Kellogg et al., 2006; Nicolini et al., 2012).

Depending on the theoretical approach and the empirical question being studied, objects take on different roles which are reflected in the various prefixes that precede objects: activity object (Engestrom and Blackler, 2005; Nicolini et al., 2012), affiliative object (Suchman, 2005), boundary object (Star and Griesemer, 1989), boundary-negotiating artifact (Lee, 2007), epistemic object (Knorr Cetina, 1997; Rheinberger, 1997), intermediary object (Vinck and Jeantet, 1995; Boujut and Blanco, 2003), or technical object (Ewenstein and Whyte, 2009). Whether an object (~~e.g., a document~~) is going to be a boundary object or an epistemic object and whether it fulfills an instrumental or symbolic function is not pre-defined. While the object's inherent characteristics do seem to play a role, the way *in which the object is used in practice* is more important for the definition of its role and function (Bechky, 1999, 2003; Levina and Vaast, 2005; Star, 2010). For example,

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Levina and Vaast (2005) were able to show that designated boundary objects that were promoted by senior management did not end up as the actual boundary objects in use. Rather, objects that were found useful in practice and were meaningful (providing a common identity) for joint work became successful boundary-spanning objects. The *situational requirement* and *actors' expectations* also define an object's role (Star and Griesemer, 1989; Henderson, 1999; Carlile, 2002, 2004; Bechky, 2003; Star, 2010; Nicolini et al., 2012). For example, in situations in which collaboration requires "coordination without consensus" or a shared understanding that is not necessarily based on identical interpretations, objects that offer "interpretive flexibility" are more likely to become boundary objects than, ~~for example, more~~ stable/closed objects, such as operating procedures or common lexica (Star and Griesemer, 1989; Carlile, 2002). ~~Ewenstein and Whyte (2009) suggest three dimensions that help differentiate the functions that objects can fulfill. Accordingly, objects vary "in the degree to which they are concrete or abstract; stable or in flux; associated with knowledge work within or across contexts and practices" (Ewenstein and Whyte, 2009: 11).~~ When the situational or task requirements (for example: stable, concrete, within context) are not met by the object or when the informational requirements of the actors are not fulfilled (for example, when the object is "not plastic or flexible enough" to be used by all disciplines), objects can "fail" (Bechky, 1999; Henderson, 1999). This is also emphasized by Carlile (2002), who argues that objects are no "magic bullet." Objects that work successfully in one situation do not necessarily work in another situation, because the *situational requirements* (new problem, different people) might have changed (Carlile, 2002: 452). Building on this observation, Nicolini et al. (2012) show that the same object can change its function and role over time. According to the authors, the transitions often "had to do with the material constitution of objects and their capacity to retroact on the activity" (Nicolini et al., 2012: 15), for example, to accommodate requirements of the different groups. The authors also note a "division of labor" among the objects in their study, with each object fulfilling the situational task it was best suited for (Nicolini et al., 2012). The transitional nature of objects is also stressed by Engeström and Blackler (2005) who describe a life(-cycle) for objects which follow a "career path" and become either successful products or end up in the trashcan. However, objects do not necessarily follow a one-way trajectory, but are able to change their roles and functions "back and forth," depending on the sociomaterial constellation in which they are embedded (Nicolini et al., 2012).

In sum, objects' roles and functions can vary. They are not pre-defined but appear to be a consequence of the situational challenges and web of

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relationships in which they are embedded. A constitutive element of a situational challenge in cross-disciplinary collaboration is a boundary, such as a knowledge, professional, or cultural boundary.

4.2.1 Boundaries and objects in new product development research

In the research field of new product development, the central challenge is to enable collaboration, knowledge sharing, and coordination across different practices and disciplines. This is a challenge inasmuch as each discipline carries its unique stock of knowledge, priorities, logics, and identities (Wenger, 2000), which create knowledge, cultural, disciplinary or professional boundaries (Carlile, 2002, 2004; Kellogg et al., 2006; Nicolini et al., 2012). Research has shown that these boundaries can be bridged by specific boundary-spanning mechanisms such as *boundary objects*. Originally, the notion of boundary objects was introduced by Star and Griesemer (1989) to describe a “sort of arrangement that allow different groups to work together without consensus” (Star, 2010: 602). Boundary objects are defined by their interpretive flexibility. They have “different meanings in different social worlds, but their structure is common enough to more than one world to make them recognizable, a means of translation” (Star and Griesemer, 1989: 393). What seems particularly important is that, even though they “inhabit several intersecting social worlds,” they “satisfy the informational requirements of each of them” (Star and Griesemer, 1989: 393). As such, boundary objects have come to be seen as *the* way to cross social worlds (boundaries), convey technical and social information, and mobilize action (Star and Griesemer, 1989).

But other types of objects might also be suitable for crossing boundaries. In fact, Kellogg et al. (2006) argue that in dynamic organizational settings ~~engaged in processes of change~~, boundary objects that are usually concrete and stable over time (Ewenstein and Whyte, 2009) and show a certain closure with respect to interpretations, values, and interests, can turn out to be counterproductive. In their stead, more flexible and concurrent forms of objects might be necessary (Kellogg et al., 2006), for example, visual representations (Henderson, 1991, 1999). Despite the fact that visual representations are often evolving and still in the making, they can be effective means for supporting collaboration processes (Ewenstein and Whyte, 2009). This is particularly the case when the collaboration is about moving forward *collectively* and *developing* or *specifying* an idea. Ewenstein and Whyte (2009) speak of visual representations as “spaces for representation” (Rheinberger, 1997). They are able to bridge the concrete and the abstract.

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They are themselves concrete, but also represent the abstract thing and, as such, help the crossing of boundaries, for example, between different design-disciplines in an architecture practice (Ewenstein and Whyte, 2009).

To summarize, different objects are able to cross boundaries and support collaboration. Whether an object turns out to be useful in crossing boundaries or not, largely depends on the specific requirements of the boundary and the *matching* capacities of the object. ~~In his research on knowledge boundaries, Carlile (2002, 2004) shows that each boundary (syntactic, semantic, or pragmatic) presents a different challenge for the establishment of common knowledge. Consequently, he argues for a match between boundary-specific challenges and boundary-spanning mechanisms.~~ “Depending on the type of boundary faced, boundary objects with different capacities are required” (Carlile, 2004: 565).

So far, the boundaries that have been discussed in the context of new product development largely refer to two of the three capacities that Rafaeli and Vilnai-Yavetz (2004) define for objects in organizations, namely their instrumental and symbolic capacities. However, the sensory, emotional, or *aesthetic* functioning of objects and their link to aesthetic sense-making (Rafaeli and Vilnai-Yavetz, 2004), aesthetic understanding of organizations (Strati, 1992), aesthetic choices (Fine, 1992), aesthetic knowledge (Ewenstein and Whyte, 2007), or aesthetic boundaries (Mitchell, 1995) is seldom mentioned, even though aesthetics have become an important aspect of organizational life (Strati, 1992; Gagliardi, 1996; Linstead and Höpfl 2000; Guillet Monthoux, 2004). Aesthetics refers to the human senses (visual, auditory, olfactory, gustatory, and touch) and involves perception, imagination, judgments, and intuition. *Aesthetic knowledge* is “beyond words” and reflects an understanding of the “look, feel, smell, taste and sound of things in organizational life” (Ewenstein and Whyte, 2007: 689). It is embedded in practice and enables practitioners to make judgments about *when* things look, feel, sound, smell *right* (e.g., Fine, 1992; Cook and Yanow, 1993; Schulze, 2005; Ewenstein and Whyte, 2007). *Aesthetic boundaries* are characterized by different senses coming together, for example visual, hearing, and touch (Mitchell, 1995). The challenge is similar to the boundaries in product development: each sensory discipline has its own collectively shared practices which do not only involve instrumental and symbolic knowledge, but also (maybe even more so) aesthetic perceptions, intuitions, and aesthetic choices. The empirical case, to which we now turn, involves aesthetic boundaries. The materialization of a personal idea is achieved by crossing from personal experience to visual representation ~~(personal/visual)~~ and then from visual representation to the olfactory

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product (~~visual/olfactory~~). On the one hand, these boundaries are characterized by functional differences (the creative director with a background in fashion design versus the perfume-maker); on the other hand, the boundaries are sensory and aesthetic, because they involve different senses and aesthetic knowing (~~visual versus olfactory~~).

4.3 Research setting and approach

The Cologne-based perfumery brand Humiecki & Graef is part of the growing niche market of artistic perfumery. The collaboration with the perfumer Christophe Laudamiel goes back to 2005, when Sebastian Fischenich, the creative director of Humiecki & Graef, decided to make a perfume based on an emotion in collaboration with a globally recognized perfumer. After a first success, the collaboration was later extended to a second perfumer, Christoph Hornetz. Like Christophe Laudamiel (CL), Christoph Hornetz (CH)¹ is a perfumer at DreamAir LLC. By 2010, Humiecki & Graef had successfully launched seven perfumes on the market. Each perfume “is inspired by atypical, emotionally evocative motifs such as madness, melancholy and fury” (<http://www.humieckiandgraef.com/>). Over the past three years, Humiercki & Graef launched about one perfume per year, with the official launch usually taking place in March at the artistic perfumery fair “Esxence—the scent of excellence” in Milan, Italy.

4.3.1 Overview of the perfume making process

At the beginning of the perfume-making process, the creative director decides on an emotion that serves as the basic idea for the perfume. Following this decision, the creative director develops a visual concept in Zurich over a period of three to six weeks. Besides his work on the concept, he is involved in various other design projects. Once the visual concept is finished, it is used to brief the two perfumers. In mainstream perfumery, the perfume brief communicates the idea of the fragrance house to the perfumer and specifies the general scent characteristic by referencing a particular scent family (Pybus, 2006; Burr, 2008). ~~A perfume brief often focuses on a particular target consumer segment and is often portrayed as a confusing statement of obvious incompatibilities and contradictions that frequently encourages the imitation of successful competitors, rather than “new” products (Turin, 2007). Thus, in a market where everyone is mostly copying successful perfumes, Humiecki & Graef is known for~~

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~~unconventional concepts and innovative scents. The briefing at Humiecki & Graef~~ consists of the visual concept which includes a sequence of three to six visual images and a few lines of text. In its visual form, the brief represents an interpretation of the particular emotion that the creative director has decided on. After the briefing, the two perfumers begin the development of the perfume formula. The perfume’s development progresses over a period of three to four months at studios in Berlin and New York. The development of the perfume for Humiecki & Graef is usually not the only project the perfumers are working on. Based on our observations, we estimate that they work on about three to six projects (for different clients) simultaneously.

The visual concept is not only used as briefing information for the perfumers, but also at other stages: It is given to the packing designer, to the photographer who produces the marketing shots, and it is also used to decide on the name of the new perfume and inspires the composition of the marketing texts. Figure 4.1 provides an overview of the overall perfume making process.

Since their first perfume development collaboration, the working relationship between the creative director and the perfumers has evolved, and their process of working together, especially the creative director’s particular way of briefing the perfumers, has become a routinized practice (Feldman and Pentland, 2003).

The overall story that we are going to tell is one of a new product development process. ~~Unlike in most existing research, the main challenge is not coordination; the roles are stable and specialized, and all actors are highly committed to the project. The challenge can be seen to be one of~~

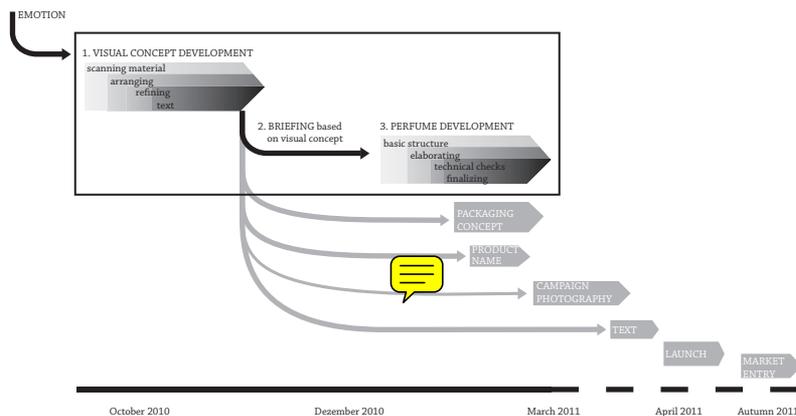


Figure 4.1 Overview of the perfume-making process

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~~collaboration, even though direct collaboration is minimal: the work that needs to be done is carried out in sequence: first by the creative director, then by the perfumers.~~ The main challenge in our case is how the immaterial idea of the creative director can be passed on to the perfumers for them to materialize the idea into a perfume. Hence, the story is about finding an appropriate representation (materiality) of the idea which is readable to others; it is about crossing a deeply personal boundary to come to a visual materialization and about crossing a visual boundary to come to an olfactory materialization; it is about how materiality comes to matter in the process of materializing the immaterial.

4.3.2 Data collection

Our research interest was to understand how immaterial ideas are materialized. Following Schatzki (2006), our empirical approach focused on the material practices and materiality that were involved. The data presented in this chapter were mainly collected as an in-depth study of the perfume-making process over a six-month period from October 2010 to April 2011. Our data collection process was exploratory in nature and included observation, interviewing, and the review of documents (Charmaz, 2006; Corbin and Strauss, 2008). We tried to get as close as possible to the everyday activities and observed these at the design agency in Zurich and at the perfumers' studios in Berlin and New York (Emerson et al., 2007). As Charmaz (2006) suggests, we recorded what we saw as well as what we heard, including the naturally occurring talk (Silverman, 2011). We wrote extensive field notes (about 500 typed pages), took photographs (1,200 photographs), and videotaped the process (approximately 180h of video material) (Pink, 2007). We conducted and audio-recorded formal interviews (briefing and debriefing) with the creative director and the perfumers, and used the context of everyday activities for frequent informal interviews (e.g., lunch, dinner, etc.). These ~~usually~~ shorter interactions were also used to answer specific questions that arose during the observations. The people, practices, and materiality we observed included interaction partners, interruptions, timing, comments, talk, music (which the creative director and the perfumers listened to while working), emails that were written, sent, and received as well as the actors' reflections, own interpretations, and reasoning for doing things in this way or another. In addition, we collected related documents (e.g., email correspondence, sketches) and materiality (e.g., perfume versions that were disqualified and thrown out). The formal interviews that we carried out systematically after a period of observations

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ranged from 40 minutes to 4 hours in length. These interviews as well as some of the informal interviews (those that we considered relevant) were transcribed verbatim. The additional audio-recordings and the video-recordings were summarized by a research assistant to provide an overview of the data and their subject. The data collection process is ongoing and focuses on the making of a new (next) round of perfume development.

During the data collection process, the visual concept emerged as materiality with central importance. We therefore decided to pay particular attention to this object and to “track” it through the different stages of the overall process in order to better understand what this object does and “who it is” (Rescher, 2007). In doing so, we tried to follow “the things themselves, for their meanings are inscribed in their forms, their uses, their trajectories” (Appadurai, 1986: 3).

4.3.3 Data analysis

Following an inductive, qualitative analysis approach, we moved iteratively between data collection, analysis, and the emerging theory (Charmaz, 2006; Corbin and Strauss, 2008). We transitioned between multiple readings of the interview transcripts, videotapes, field notes, coding of recurring themes, and the building of categories. Each author separately carried out open coding (Corbin and Strauss, 2008). In the course of organizing and interpreting the data, we drew upon conceptual frameworks from literature (Ewenstein and Whyte, 2009; Nicolini et al., 2012) as sensitizing concepts (Blumer, 1954) that helped us to make sense of the data and sensitized us, for example, for the different roles and functions an object can take on. The ambiguities resulting from the initial coding were taken up during the formal debriefing interviews and led to a better understanding of “what was happening” (Charmaz, 2006). For the second coding step, we focused on the visual concept and the material practices in which it was embedded. Figure 4.2 provides a summary of our empirical approach ~~and focus~~.

4.4 Findings

The findings are structured in chronological order and include data from three different time phases: Phase 1—the development of the visual concept, Phase 2—the briefing situation, and Phase 3—the development of the actual perfume (see frame in Figure 4.1). Each phase is characterized by

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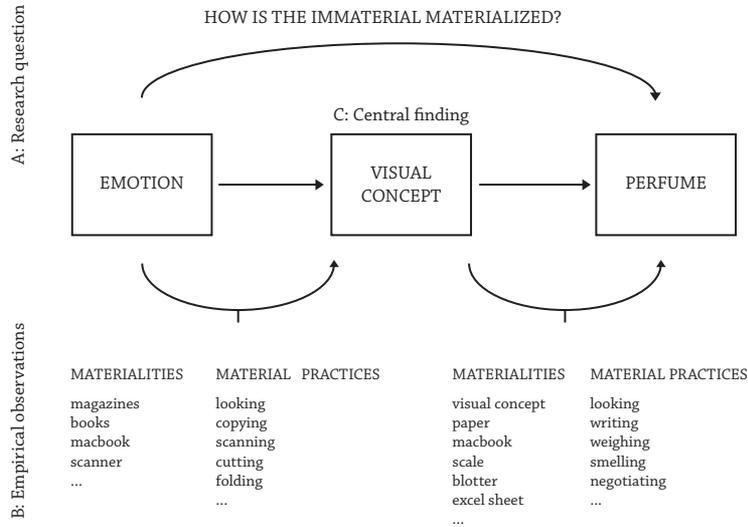


Figure 4.2 Overview of empirical approach and focus

particular challenges, boundaries, and movements ~~that are enabled by the visual concept and that help the actors and the process to move forward.~~

4.4.1 Phase 1: From abstract to concrete, from internal to external, attachment to detachment

The development of the visual concept challenges the creative director in several ways. The initially vague emotion needs to be specified and made concrete; the emotion must be materialized so that it can serve as a communication device with other professionals later on in the process. For this to be possible, the personal experience (internal) has to be made external and find a first materialization. The creative director has to partly detach himself from his own personal experiences and find a visual representation that can be read by others. The personal/visual boundary has to be crossed in order for others to be able to make sense of the visual concept.

On a sunny October morning in 2010, the creative director started the work on the visual concept for the new perfume that was to be launched under the label Humiecki & Graef. He started off with the vague idea that the new perfume should be about the emotion of trust. On his way to the studio, he purchased a selection of fashion and lifestyle magazines. Upon his late arrival at the studio, he started his work by going through the magazines, surfing the web for other visual associations, and consulting

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some reference works of cultural history. When he started talking to us, he stated that he was sure that the emotion he wanted to focus on was “trust.” However, he was not yet sure “about the associations and visual representations of trust” (transcript). But this did not seem to worry him too much, he simply continued by looking through magazines, getting up from his desk to get a book, listening to music, reading emails, talking on the phone, and looking for more images that might help him develop a visual representation. Moving between digital and paper worlds, high and low culture, historical and current imagery, he continuously associated his internal world of feeling with the external world of associations. Thus, he slowly “concretized the vague feeling” (debriefing interview, transcript) he was looking for. During the making of the concept, he occasionally spoke about his idiosyncratic associations:

Warm, deep, warmth: inside, closed
A traditional Sunday roast
I have discovered that the scent needs to have something of a red wine
It is something sexual, to confide in someone, to open up to someone
It should be something with bast—a basketwork

We observed how the visual concept emerged from the connections that evolved between these different aspects. Thus, the creative director seemed to come closer to what he was looking for (from transcript and field notes):

Creative director: There should be a woody note; the red wine is still missing; dry laurel; grey hair. [...] Grey  mirrors the color of trust. [...] Unfortunately, this is green. [the creative director smiles]
Researcher: A few minutes ago you said that it should not be green. You seem to have a concrete idea. Is it too fresh?
Creative director: Yes, indeed.

This cognitive process manifested itself in a sequence of material practices as shown in Figure 4.3: the creative director copied, scanned, and printed; he searched the internet; he cut images and folded parts of them; and he digitally assembled the visual fragments in Adobe Photoshop. Together, these different material practices propelled the overall materialization of the emotion.

All in all, the visual concept remained unfinished, open, and in the making over a period of five weeks. Throughout this period, the creative director lived an “active dialogue” (debriefing interview, transcript) with the visual images. Thus, he worked on the visual concept whenever he had an idea or was in the mood for perfecting it, for example, he worked on it at

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Figure 4.3 The making of the visual concept

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home, on a Sunday morning while still in his bed, or during his official working hours at the office. We sometimes got the impression that he was “obsessed” with it. According to him, he just continued to “polish images and words” (debriefing interview, transcript) and to make minor changes that we, as researchers, sometimes did not even notice. But to his eyes, something was still missing. There was still something he had not yet fully understood and that manifested itself in an aesthetic inconsistency. His final approval of the concept was rooted in this designerly sense of perfection:

Creative director: In every design process, there is the point where the designer knows: It is done.

Researcher: What about changes?

Creative director: No, no, changes after it is done.

At this point, the visual concept was “frozen” and closed. In its final state, it consists of three images and three lines of text—one under each image. As the creative director explained to us, each image serves a specific function: The first image introduces the emotion on a general, visual level. The second image visually details and concretizes the emotion further. The third image provides specific visual cues about desired olfactory notes, such as laurel or “red wine.”

Overall, we observed the development of the visual concept as an associative discovery and clarification process. Like other creative processes, it was not a systematic, but rather a seemingly chaotic process with many interruptions (Michlewski, 2008). The time that the creative director needed was continuously underestimated by him and took much longer than his subjective perception of it.

The choice of the emotion of trust and the development of the visual concept involved the creative director personally. The concept worked as a reflection of his personal situation and emotional state. During a lunch break, he referred to a recent disappointment as one of the factors accounting for his motivation to have a perfume about trust. Accordingly, the search for the perfect concept corresponded with his desire to understand his own situation. The concept is not only an object he happens to be working on. It is more a true companion he literally spends his day and night with. It seems to embody what he does not yet know (Knorr-Cetina, 1997). *“Personal attachment, intimacy, and projection characterize the relationship between the concept and the creative director”* (from field notes). Reflecting on this intimate relationality in an informal interview, the creative director talks about the downsides and possible difficulties in the collaboration with the perfumers:

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It is so hard to distance oneself from one's own biography. This is even more so when dealing with emotions . . . I have to erase the personal links. I want to see the images as mere images, because the perfumers do not share my experience. They can hardly relate to this. I must try to communicate the ideas without talking about myself.

This quote illustrates very tellingly the necessity to partly dissociate himself from his own personal interpretation to make it communicable to the other people who are involved in the process. Because the concept materializes the creative director's personal associations, the concept makes sense to him. However, the perfumers approach the concept with a different background, a different understanding, a different personal situation. As a consequence, the concept has to effectively communicate the key idea across these boundaries. For this reason, the creative director wanted the concept to be clear and well-structured, while also allowing for enough interpretive flexibility, so that the perfumers could enjoy a certain degree of autonomy and creative freedom.

4.4.2 Phase 2: From personal to collective, from detached to attached

After the visual concept was considered "ready," it was sent to the perfumers by email without any additional information. As mentioned above, the actors have been working together for some time and their practices are routinized and do not need any additional explication. The main challenge during ~~in~~ Phase 2 is to make the personal idea a collective one and to get the perfumers interested, committed, and attached to it.

The email with the attached visual concept was sent on November 9, 2010. Three weeks later, the creative director and the perfumers had a 45-minute briefing conversation on the telephone. In general, the term briefing refers to the process in which both a client and a designer or other professionals analyze and agree on the scope, aim, and budget of a project (Tuminelli, 2008). Thus, any briefing situation constitutes a boundary situation by its very nature. In our case, we observed a disciplinary (design–perfume-making), an aesthetic (visual–olfactory), a geographic (Zurich–Berlin), and a linguistic (German–English–French) boundary. In this briefing situation, the three participants discussed the special experience of trust as well as the richness, maturity, and complexity of the future scent in the light of the visual concept. The perfumers wanted to start their work from the visual concept and consequently explored the different facets of it. In an attempt to better understand it, they asked questions for clarification: "What do you mean by impartial?," "Does devotion capture the essence of page one?,"

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“How does the feeling of being in good hands relate to trust?” (transcript). Thus, during the first part of the conversation, they jointly identified different aspects of the meaning of trust: “Longing,” “passion,” “nuances of melancholy,” “a sense of love,” “dedication,” and “security.” However, the different aspects remained rather unconnected in the course of the phone conference and were not merged to form a shared definition or description. The visual concept thus mediated the *internal* experience of the creative director and the perfumers as *external* recipients of it.

In the second part of the telephone conversation, the discussion shifted towards possible olfactory notes for the perfume. One perfumer clearly expressed his surprise at the laurel note that the visual concept suggested on the third image. In response, the creative director characterized this rather unusual note as “dry,” “balsamic,” and “herbaceous” (transcript). In this situation, the visual concept showed its interpretive flexibility insofar as the perfumer referred to the laurel leaves on the third image as an allusion to the “Roman Empire” (transcript), whereas the creative director wanted to capture the atmosphere of a “traditional Sunday roast” (field notes). In his reply the creative director conceded: “This is funny. I have not seen it this way. But it is true” (transcript). The visual image allowed for the coexistence of both associations. Thus, the visual concept is able to incorporate radically different meanings. At the same time, it allows for coherence across the boundaries. Even though different interpretations existed, they did not obstruct the process. Instead, its openness, its emphasis on the aesthetic dimension, and the lack of technical precision at this stage facilitated the process catalytically. In fact, the visual concept did not primarily convey factual statements that call for a logical examination in this briefing. It rather visually captured and mobilized “a surreality” as the creative director called it in the debriefing interview and introduced itself to the perfumers as a flexible source of stimulation and inspiration. As such, the visual concept allowed the perfumers to associate it with their own personal experiences and to establish a link and relationship with the concept.

Creative director: “It is really about the connection between old and young.”

Perfumer: “Fine, this is how I understand the other pictures. I was immediately able to relate to this concept. It is more than just a mere understanding.”

Creative director: “Yes, I understand.”

Perfumer: “I can get the point of the concept, because it is really the feeling of a boy (short silence)—it has happened to me a few times.”

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The possibility to make sense of the visual concept by means of their own associations, intuitions, and experiences enabled the perfumers to identify and get attached to the visual concept. Thus, they were able to collectively empathize with the originally individual emotion of trust. The visual concept was then no longer the visual representation of Sebastian's experience of trust. Instead, the perfumers identified specific moments of their own biography. After this "appropriation," the phone conference quickly came to an end. The perfumers committed themselves to preparing two alternatives for an olfactory expression of the visual concept. They started to work on it one week later in their studio in Berlin.

4.4.3 Phase 3: From artistic openness to technical closedness, from visual to olfactory materialization

The goal of the development of a new perfume is a well-blended composition of initial top notes and long-lasting base notes—a "product of beauty" (Shif-tan and Feinsilver, 1964). Technically, the process aims at a chemical formula that can be passed over to the aroma company that produces the perfume. The main challenge in this phase is thus for the perfumers to find an appropriate olfactory representation for the visual concept. Because the olfactory representation, in the end, is a chemical formula, they have to move from artistic openness or ambiguity to a technically, closed representation.

The development of a new perfume begins with the work and decision on the structure of the perfume. The work proceeds with a thorough elaboration of the different notes and concludes with technical checks and minor adjustments. Technically, the perfume-making process can be described as a sequence of clearly defined steps and material practices at the perfumers' studio (Calkin and Jellinek, 1994). Initially, the perfumer determines the materials and writes down the exact formula. Based on our observations and inquiries, 4 to 6 alternative formulae capturing variations of the overall composition are usually calculated and subsequently weighed precisely in the laboratory area of the studio. Each step is documented accurately in writing. The perfume is taken to the desk area and then smelled by the perfumer. Following an analysis of the olfactory experience, the original formula is further modified: disturbing materials are left out, new materials are added, and the overall composition is changed until a convincing formula is found. In the fieldwork conducted by us, the visual concept was deeply intertwined with these material practices. The concept could be observed in numerous instances during this movement.

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When we arrived at the perfumers' studio in December 2010, we found a printed version of the visual concept on Christoph's desk in a folder with a few notes from the phone conference. Christoph (CH) was the first to work on the new perfume. We saw him clearing his desk and then concentrating on the visual concept as shown in Figure 4.4. He looked in detail through the three pages and wrote down first ideas and associations. After a short while, he took two bottles from the archive section in the laboratory. While smelling the perfume structures from previous projects, he looked through the visual concept, took additional notes, and consulted his personal knowledge base on the computer. What followed was an intensive phase of moving between the visual concept and the material practices of writing notes and formula, weighing in the laboratory, and smelling at the desk as documented in Figure 4.4. The visual concept provided the general direction, motivation, and meaning for his activities. For the entire day, the visual concept remained on his desk. In the debriefing interview, Christoph (CH) explained that he was looking for a symphony of the structure with the notes Sebastian had mentioned during the briefing.

After two hours of lone work on the perfume, Christophe (CL) joined his partner at the desk. He brought along his own copy of the visual concept and some ideas about a possible structure he wanted to explore. The two perfumers began by smelling what Christoph (CH) had previously worked on. Christophe (CL) liked the "ambery notes in the back" and disliked the "aniseed in the top." Verbalizing his first impressions, Christophe (CL) looked at the visual concept in front of him and pointed at the first picture with his blotter.² Going through the formula that expressed the olfactory impression in technical writing, the two perfumers found it difficult to identify the "aniseed" and "metallic" impression they had gotten from the scent. What followed was a discussion of different ingredients and the conclusion that the next versions should be softer.

During the entire smelling session, we observed the two perfumers sitting in front of a copy of the visual concept. The concept was part of the desk scenery and showed performative qualities, though neither of them referred to it explicitly: the visual concept functioned continuously as a subtle eye-catcher for the two perfumers and became a partner in the conversation. This "vitality and liveliness" (from the transcript of the debriefing interview with the creative director) of the visual concept became even more obvious when the two perfumers dealt with the second structure Christoph (CH) had prepared. We could witness how Christophe (CL) enjoyed the scent: "That is nice too," although after a quick look at the visual concept, he made it clear that this scent did not fit his perception of the concept:

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Figure 4.4 The visual concept in use by the perfumers

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It is not my imagination of how I feel strongly about a professional master . . . in karate . . . because it is nice, it is comfortable—but there is not the very intense strength of a master.

Following this judgment, the dispute between the two perfumers escalated. In the end, Christophe (CL) picked up the visual concept: Swinging it with his left hand, he demonstrated the contrast between the scent and the concept as shown in Figure 4.4. Accordingly, the scent was “a cologne,” “wishy-washy,” “too nice,” but a “no-brainer,” whereas the concept was a “brainiac—a very intense mind connection.” To Christophe (CL), the current olfactory expression was not in line with his interpretation of the visual concept. His criticism was based on an aesthetic judgment that could not be traced back to specific elements of the visual concept. The concept seemed to have activated an aesthetic knowledge of the emotion of trust. While one perfumer looked for “masculine, floral notes,” the other perfumer had a different association in mind. Despite these differences in interpretation, both perfumers were deeply committed to the visual concept: it had stimulated them in their professional and artistic ambition. The following excerpt from a field note summarizes our observation concerning the use and presence of the object during the beginning of Phase 3:

The concept has been very present today. Yet, it is not so much the image or specific details, but the mere keyword “concept” that occupies the two perfumers. The briefing and the discussion of the concept must have left a strong impression on the two. Thus, the concept functions as a natural point of reference: “This fits with the concept,” or: “This is not in line with the concept.” The mere reference to the “concept” works without further detailing the link to the concept.

Later in the process, the debriefing interview confirmed how the visual concept triggered divergent associations: On the one hand, Christophe (CL) associated the visual concept with an “intensive, ideal type relationship between two people.” On the other hand, Christoph (CH) saw an “erotic” and “sexual aspect,” described it as “daring,” and felt more “challenged” when compared with the previous concepts. Facing the contradiction, the visual concept is not only used as an intellectual and immaterial argument, but in its materiality: It is picked up, shown and performatively used as a material object. Another function of the concept was observable some time later: Christophe (CL) was in the midst of smelling and analyzing an advanced version of the perfume at his desk. He was not satisfied with the overall smell. We got the impression that the elaboration process had become stuck and that the perfumer was lacking orientation and focus. The perfumer interrupted his smelling and analyzing work. He briefly

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mentioned that he wanted to look through his “sketchbook,” his knowledge base consisting of notes and archived formula, etc. Yet, before he really got into the pile of paper, he remembered the visual concept and took it out of his project folder labeled “H&G.” After looking at the first picture for a few seconds, his search seemed to gain a new sense of direction. He noticed “milky,” returned to the formula, and added some notes. A few minutes later, we saw him looking through the other pictures of the concept. He noted the “repetitiveness” among the pictures and sensed something “elegant.” Taking this interpretation further towards the formula, he then wanted “to play with some woods.” After this conclusion, the perfumer put the visual concept aside and returned to the formula on the computer for further technical modifications. Within ~~four~~ minutes, the perfumer was able to gain new insights from the visual concept.

In these short contacts with the concept (which we frequently observed), the perfumers moved between the olfactory and the visual. The visual concept representing the emotion of trust provided the overall orientation for the more technical work on the formula. The formula defined and specified the ingredients and their composition with respect to amounts, weight, etc. It represented the technical expert knowledge of the perfumer. When immersed in the technical work on the perfume, the visual concept guided the perfumers back to the fundamental ideas of the perfume and prevented them from being lost in the technical details of perfume-making (Shiftan and Feinsilver, 1964). Working with the visual concept, the perfumers could apply the olfactory ideas in terms of technical materiality, while not losing track of the ideas the perfume was intended to represent.

4.5 Discussion

Studying the process of perfume development allowed us to observe how an immaterial idea is materialized. Empirically, we considered the role and function of materiality, paying particular attention to the visual concept as the “main actor.” The visual concept was developed by the creative director to represent and communicate the basic idea for the new perfume to the perfumers. Hence, the materialization process did not happen directly (from idea to perfume), but via a “detour” of visual materiality. However, the visual concept seems to have been worth the extra mile: It enabled the materialization of the immaterial by supporting three successive movements: from *abstract to concrete* (*from internal to external, from attachment to detachment*), from *personal to collective* (*detachment-attachment*), and from

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artistic openness to technical closedness (ambiguous-concrete). These movements were necessary to overcome the situation-specific challenges and boundaries during the collaboration and product development process.

Table 4.1 provides a summary of our findings, including a characterization of the three situations, their challenges, the movements that were supported by the visual concept, the actors that were involved in the specific situation, their relationship, and the functions and roles of the visual concept over the three phases.

In the first phase (during the making of the visual concept), the visual concept can be described as epistemic object or, better, an instantiation of the epistemic object of the emotion “trust.” There is a close, personal relationship between the creative director (the originator of the idea) and

Table 4.1 Overview of situation-specific challenge, actors, and object’s role and activity

	1. Development of visual concept	2. Briefing	3. Development of perfume
Situation-specific challenge	Specify emotion; turn emotion into a communication device; make sure others understand it	Opening ownership; conveying the experience of trust; making sure perfumers understand the idea Make sure perfumers can identify with concept, appropriate it	Fit with concept; translating materialized emotion (visual concept) into olfactory representation
Movement	Vague–concrete internal–external attach–detach from personal to visual	from personal experience—to collective detach–attach	Artistic–technical Abstract/ambiguous–concrete From visual to olfactory
Actors	Creative director–visual concept	Creative director–visual concept–Perfumers	Visual concept–perfumers
Characteristic of relationship	Personal, close, intense, emotional	Distanced but interested, then: identified with and appropriated it	Close, activates; object serves as “collaboration partner”
Object’s characteristic and role	To trigger desire, create mutual dependencies; in the making, open—then suddenly “closed”	Translation device, interpretive flexibility across boundaries; stable, “closed”	Motivates the collaboration; directs activities; can lead do contradictions that are discussed and negotiated
Visual concept shows resemblance with the following object roles	Epistemic object	Boundary object	Activity object



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the emotion. The “object of desire” (Knorr-Cetina, 2001) is evolving and in the making. To make the emotion communicable, a visual representation is necessary to cross the personal/visual boundary. The situational challenge is to move from abstract to concrete. According to Ewenstein and Whyte (2009), this is exactly what the visual concept is able to support. “Visual representations are certainly a significant, if not *the* major, way in which the abstract is linked with the concrete” (Ewenstein and Whyte, 2009: 12, emphasis added). A match between the situational requirements (crossing the boundaries from personal to visual, from abstract feeling to concrete visual representation, from internal representation to external materialization, from attachment to detachment) and the properties of the object allowed this movement.

In the second phase (the moment of the briefing), the visual concept takes on the role of a boundary object. The main challenge is to translate the original idea to the perfumer, so that they understand the idea, identify with it, and appropriate it. The intimate relationship between the idea and the creative director needs to be replaced by the relationship between the visual representation and the perfumers. While the idea (emotion) had to be detached from the creative director by materializing it visually in the first phase, the challenge is now to get the detached perfumers *attached*. The movement is thus from *personal* to *collective* (from detachment to attachment) without losing the intended message (making a perfume about “trust—the feeling of being in good hands”). To establish a link, it is important that “the object is both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” (Star and Griesemer, 1989: 393). In other words, the visual concept can be read by the perfumers, even though they have a different professional background than the creative director. They can make sense of it and link it to their own (emotional) experiences. Again, we find a good “match” between the situational challenge and the properties of the object to allow the process to move forward, to overcome the challenge and the boundary that exists between the different professional backgrounds. In addition, the visual concept is also able to span the geographical boundaries between New York, Berlin, and Zurich, because it is mobile and easily circulated (electronically) and thus helps to establish a shared understandings and normative parameters (Latour, 1999; Ewenstein and Whyte, 2009). The fact that the creative director relies on a visual concept corresponds with the specific qualities of visual images that are also discussed in the literature. Being confined to two dimensions, visual images are elliptic and incomplete (Jonas, 1962).

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Yet, the visual expressiveness, eloquence, and complexity (Elkins, 1999) make it possible to frame different aspects in one visually consistent picture that can be perceived simultaneously. Thus, the “picture superiority effect” (Paivio, 1971) explains the efficiency and effectiveness of visual communication. In a similar vein, Ewenstein and Whyte (2007, 2009) argue that visual representations embody diverse types of knowledge, such as engineering-specific knowledge and aesthetic knowledge (Ewenstein and Whyte, 2007, 2009), which allows professionals with different perspectives to make sense of it and relate to it (Henderson, 1999; Eckert and Boujut, 2003).

In the third phase, the visual concept is constitutive to the material work practices of the perfumers. Once the perfumers started to engage with the visual concept, it ~~changed its nature from passive to active~~. It prompted and motivated the succeeding activities of the perfumers. Besides its role as a translator, the concept was also a mediator that acted: It initially provided the controversial basic idea for the development of the formula as well as new ideas at critical moments during the further development of the perfume. When the refinement of the scent was about to stagnate, the perfumers regularly picked up the visual concept and quickly searched through the images and words for inspiration. Thus, it provided the overall direction and was a “driving force” (Miettinen et al., 2009: 1318) behind the perfume’s development. It took on an active role and demanded definition, triggered discussion, and spurred the development on. These functions can be said to be characteristic of an activity object (Nicolini et al., 2012).

Our findings corroborate that the material constitution of an object (visual, olfactory, open-closed, abstract-concrete) needs to fit with the situational requirements (e.g., boundaries, challenges) in order for the object to become ~~relevant, useful, and a “magic bullet” (Carlile, 2002), which enables particular movements in the process of materialization~~. While the different roles and functions of objects have already been discussed in the literature, the movements that we identified are novel; they offer insight into the possible *actions of materiality* and stress the mutual interdependence between object, situation, and actors (see Figure 4.5 for illustration).

4.5.1 Relational movements and materiality’s agency

In the process of the materialization of immaterial ideas, different situation-specific challenges were encountered. On the one hand, they were defined by the actors who were involved at this particular moment (e.g., creative director) as well as by the object that was relevant at this moment (e.g., emotion of trust). The situational challenge (e.g., personal/visual boundary,

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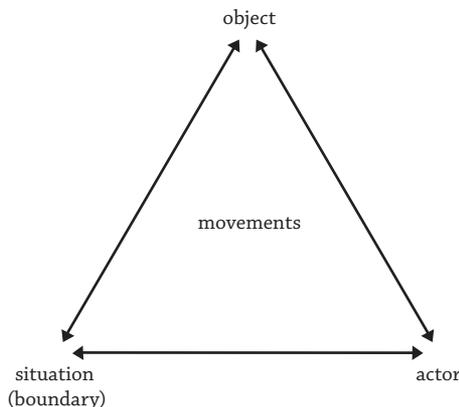


Figure 4.5 Interplay between situation-specific challenge (boundary), object, and actor

moving from internal association to external visual materialization) was thus co-produced. At the same time, the situation-specific challenge defined the properties that were needed in the object to “fit,” for example, a visual representation that would help to move from abstract idea to concrete image. The object, on the other hand, received its role not only from the situation, but also from the web of relations in which it was embedded; from the way in which it was used by the actors. For example, the intimate relationship between the creative director and his personal experience of trust influenced the making of the visual concept. At the same time, the visual concept (materiality) ensured the working-together of the social actors (creative director and perfumers) in Phase 2 and, in doing so, also responded to the situation-specific challenge (boundary). In short, situation, objects, and actors are interdependent. Their entanglement defines which movements are *necessary* to overcome a ~~specific~~ situation specific challenge (~~e.g., boundary~~); it also defines which movements are *possible* given the specific constellation between actors, objects, and situation. The movements, in turn, act back on the relationship constellation between object, actors, and the situation by overcoming the challenge and by moving the process of materialization to the next phase. Our findings thus corroborate the sociomaterial entanglement of objects, actors, and situations and help to specify the reasons for the object’s transition during the process (e.g., Ewenstein and Whyte, 2009; Nicolini et al., 2012) as well as its success or failure (Bechky, 1999; Henderson 1999; Carlile, 2002, 2004). The specific challenges (boundaries) do not only call for matching objects (Carlile, 2004), but also, ~~and maybe even more importantly,~~ for particular—boundary-specific—*movements*.

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In line with a relational process view of organizing (Langley and Tsoukas, 2010) we argue that the movements are *relational*: they are enabled by the sociomaterial entanglement of actors, objects, and practices (Knorr-Cetina, 1997, 2001; Latour, 2005; Schatzki, 2006; Orlikowski, 2007; Orlikowski and Scott, 2008). According to the sociomaterial perspective, the “the social and the material are considered to be inextricably related—there is no social that is not also material, and no material that is not also social” (Orlikowski, 2007: 1437). It is not the social forces alone that move material objects, but the social practices which are entangled with materiality (Latour, 1996). On the one hand, sociomateriality suggests that social relations are held in place by materiality. On the other hand, materiality receives its importance, function, role, and meaning from the social web into which it is embedded. Law (2002, 2004) speaks of *relational materiality* and explains: “Objects are an effect of stable arrays or networks of relations” (2002: 91). The object (visual concept) received its meaning and function from the way the actors were using it. The movements were possible only because of the specific relationships that existed between the actors and the object. Accordingly, materiality’s agency follows from the entanglement between materiality and sociality (Barad, 2003). It is the existing web of relationships that decides which matters come to matter.

4.5.2 Future research

Visual images are known for being able to influence recipients emotionally. Scholars in the emerging field of visual studies emphasize the agency of images and inquire how visual images affect human emotions (Mitchell, 2005). In our case, the visual concept might have had an emotional immediacy, which could help explain why the attachment to the idea (emotion) worked so well with the perfumers. The visual concept was obviously able to trigger associations that are linked to the perfumers’ own experiences which facilitated the identification with the concept’s idea and the subsequent development of the perfume. In design studies, using visual material to communicate emotions is an established practice commonly referred to as “mood board.” Mood boards are used in design processes “to introduce a certain mood, theme, or consumer world” (Godlewsky, 2008: 266).³ The mood board communicates “the touch and feel” of the final product and as such refers to an aesthetic knowledge or knowing of the designers (Ewenstein and Whyte, 2007). We believe that this is also true for the visual concept that we studied: the production of the visual concept by the creative director as well as its reading and interpretation by the perfumers

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is largely based on an aesthetic knowing. In other words, the visual materiality is not chosen to communicate functional information, but to appeal to the senses. It is an aesthetic expression of the emotion trust and, as such, appeals to the perfumers' senses and own emotional experiences. This observation points to a new aspect in the discussion around materiality: its *aesthetic* and *emotional* side. Artistic materiality (such as artwork or other creative products) might be particularly well suited to help the materialization of immaterial ideas, emotions, or personal experiences. Future research may be able to focus on the aesthetic function (Rafaeli and Vilnai-Yavetz, 2004) and the "sensuous immediacy" of objects (Pels et al., 2002) and how these are related to emotions and aesthetic boundaries and knowing in product development and innovation processes in an economy that is increasingly driven by aesthetics (Postrel, 2003) and (sensory) experiences (Pine and Gilmore, 1999). In addition, future research could also consider in greater detail the role emotions play in the process. While the creative director presents the emotion solely as an "unconventional idea" for the new perfume, it could be argued that the emotion is always present during the development process. In principle, Sebastian organizes the work around the new perfume's development emotionally. By *organizing emotionally*, we suggest that not only the beginning is marked by an emotional experience; all subsequent processes and practices are also induced by an emotional experience. For example, the visual concept helps the perfumers relate emotionally to the concept and its idea. They engage in a form of "emotional commitment" or "emotional participation" that binds them to the development of the product. If this is the case, the emotion could be seen as vehicle for crossing boundaries. Instead of focusing on material instantiations, future research could focus more on the immaterial emotion. It would also be worthwhile to inquire whether it is this emotional relation that enables the perfumers to create a special scent that in turn induces highly emotional reactions in the consumers (as can be found on internet blogs such as www.fragrantica.com). This could be relevant for scholars working in the field of emotional design (Norman, 2003), where the focus is on the emotional side of designing, buying, and using products.

Finally, our findings suggest that objects do not only engage in relationships with human actors but also in object-object relationships. For example, the relationship between the visual concept and the fragrance or between the excel sheet (formula) and the scent; these relationships take on complementary, recursive and co-depending forms. A closer analysis of these object-object relationships could possibly take the notion of an object-centered sociality (Knorr-Cetina, 1997, 2001) a step further.

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4.6 Conclusions

The main concern of this chapter has been to help explain the materialization of an immaterial idea. We have drawn on a study of perfume-making in artistic perfumery to outline how materiality comes to matter in this process. Central to our findings has been the identification of relational movements that were enabled by the visual concept and that proved critical for the materialization to take place. The findings of our study can be linked to research in the field of new product development and the emerging stream of process organization studies. It adds to our knowledge on product development by taking into account *personal, sensory, and aesthetic boundaries* which have largely remained unexplored. We have argued that visual materiality constitutes a promising means for spanning these boundaries and called for more research to fully explore the *aesthetic* and *emotional* function of materiality in organizing processes in the creative industries and elsewhere. Second, the chapter adds to the understanding of materiality (objects) by specifying its transitions and movements. In line with a relational process view of organizing (Langley and Tsoukas, 2010) and the notion of relational materiality (Law, 2002, 2004) we argue that the objects' movements are relational and possible only when a specific constellation of situational challenges (boundaries), actors, and object characteristics match each other. In other words, materiality matters as a consequence of its web of relationships and the relational movements that it enables.

Notes

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1. Because both perfumers have the same first name, we will put their initials in parenthesis to provide the reader with a better understanding of ~~whom we are talking about~~.
2. Blotter refers to the paper strips used to smell and test a perfume. They are usually dipped in the perfume and then held close to the nose to smell ~~the perfume~~ (Calkin and Jellinek, 1994).

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3. Mood boards are seen as communication devices that mediate between different stakeholders (Eckert and Stacey, 2003), most often in client conversation. Mood boards resemble “sketchy collages” (Godlewsky, 2008) and are created from diverse material, such as images, text, textures, etc. Besides expressing a mood or evoking an emotion, the boards can provide inspiration (Eckert and Stacey, 2003) or summarize the results of a research process (Eckert, 2001).

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