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## Mood boards as a tool for the “in-discipline” of design

**Gentès Annie**, Télécom-Paristech, [annie.gentes@telecom-paristech.fr](mailto:annie.gentes@telecom-paristech.fr)

**Valentin Frédéric**, Télécom-Paristech, [frederic.valentin@telecom-paristech.fr](mailto:frederic.valentin@telecom-paristech.fr)

**Brulé Émeline**, Télécom-Paristech, [emeline.brule@telecom-paristech.fr](mailto:emeline.brule@telecom-paristech.fr)

### Abstract

This paper analyses the use of mood boards in design education not only as a means of conception and communication but also as a method that brings interdisciplinarity into play. It presents a longitudinal study of two use cases in two different educational contexts: a design school and an engineering school. After analyzing mood boards, their production and presentation, the authors suggest that mood boards actually help practitioners to draw pertinent questions and responses because they organize three conceptual activities: discretization, coherence, and relevance. The discretization of fields, objects, facts, deconstructs the disciplines as such, but also organizes the interplay of disciplines. This interplay could be dismissed as undisciplined. But we suggest that the format—i.e. the formal meaning of the media—shapes the process and organizes a rationally and efficiently constructed space of conception. After Rancière, we suggest that the concept of “indiscipline” covers not only the deconstruction and the stepping out of disciplines, necessary to the process of conception, but also that it reflects the rigorous framing of this process through formal and practical meaning making.

*Interdisciplinarity; Indiscipline; Mood-Board; Design; Design Education; Discretization.*

In both ideation and production processes, design is described by designers as interacting with multiple disciplines (Bremner & Rodgers, 2013, Cross, 2001 ; Cross, 2006 ; Dykes, Rodger, and Smyth, 2009 ; Findeli, Brouillet, Martin, Moineau, Tarrago, 2008; Harfield, 2008; McKay & Marshall, 2007; Stein, 2007). This claim takes place both at the institutional

level to demand a specific space for a multidisciplinary practice and at the epistemological level to establish the rationale of a discipline while it borrows and modifies concepts and methods from other disciplines as well as develops its own. More importantly in our perspective, it structures the way design education is defined and prescribed in France. After studying multiple texts formalizing design education in France (Arrêté du 17 juillet 1984; Arrêté du 30 juillet 2012; Arrêté du 5 avril 2012; Extraits du Bulletin officiel spécial du 29 avril 2010), we noted that one of the recurrent characteristics associated with the designer's practice is her "capacity to interact and work with other disciplines", her capacity to interact with various actors of different disciplines while understanding and integrating them into her own practice (as an example, a transversal capacity expected from HND students in graphical, product and environment design is to "communicate at all levels in a pluridisciplinary manner"(Arrêté du 22 août 2006 and Arrêté du 8 avril 2009).

Without repeating the entire debate on interdisciplinarity (Dubreuil, 2007; Findeli, 2001, Bremner & Rodger, 2013), we wish to identify the relations between design educational tools and scientific disciplines. We find that tools are often considered either in their creative or managerial capacity but here we want to question their role as interdisciplinary research tools. Following the principle of "design oriented research" as defined by Daniel Fallman (2008), we would argue that mood boards are not only design tools but also a means of production of knowledge and concepts that deconstructs disciplines as such, but also formally and pragmatically frame the research findings. Saying so does not mean a consideration of design and its tools as "disciplined"—that is following a set of well defined steps—nor "undisciplined"—in the sense that it would not follow any rigorous rationale—but rather that the pragmatic and semiotic traits of these documents and their circulation organize not only the deconstruction of disciplines but also the re-organization of data to produce a new object, an X.

In the first section of this article, we present a review on design education and the interplay of disciplines. We then draw on the literature on mood boards to point out the way they elicit "emotions" and their creative and managerial qualities. We also take into consideration the criticisms that they raise. After presenting our research setting, we move on to analyze a series of mood boards created in two contexts of education to better understand how they structure the design practice in terms of formal properties and cognitive operations. In the next section, we identify their epistemological properties. Then, we discuss how these properties operate a synthesis and the expansion of the design project. We ask the following questions: How are they related to the rationale of a scientific process? How do they organize a design space? We finally conclude on the "in-discipline" of design.

## **Design Education and the Interplay of Disciplines**

In our review of design education literature, we identified three major topics of inquiry: the acquisition of a theoretical and visual culture (Brookes, 1992; Dutton, 1991; Gall, 2008; Chin, 2011; Hadjiyanni, 2014), the development of methodological and analytical techniques (Schon & Wiggins, 1992; Goldschmidt & Smolkov 2006; Adams, turns, and Atman, 2003; Ozkan & Dogan, 2013; Daalhuizen, 2014) and the fostering of students creative skills (Cross, Christiaans, and Dorst, 1994; Folkmann, 2010; van Dooren, Boshuizen, van Merriënboer, Asselbergs, and van Dorst, 2013; Lu, 2015). While all these acquisitions are legitimate to become designers, what is also at stake is the interplay of these different competences in a design project (Hatchuel, Le Masson, and Weil, 2011). In particular: how do creative skills intersect with theoretical knowledge? Findeli (2008) explores the interplay between design practice and scientific practice. While he criticizes an approach of design education that focuses only on practice, he also points out the limits of design considered as an applied science. In the latter case, he emphasizes first the impossibility of listing the infinite number of sciences that could be applied by design. Second, he contends that design cannot be an applied science. Just as engineering sciences are not applied sciences for fundamental sciences but constitute a specific field with their own complexity of knowledge (Schmid, Mambrini-Doudet, and Hatchuel, 2011), design sciences constitute a field of concepts, methods, and theories that are autonomous from “fundamental” sciences. Yet design also builds a relation to other sciences. This relation is to be understood through the practice of design. Following Findeli’s analysis of design education (2001), we want to understand the practice of design through the artefacts that are produced during design classes and projects and to see how these practices can be understood from an epistemological point of view. We are interested in the implied theories of design supporting these artefacts and their production. In this article, we focus on the data that is collected from contextual research, and how they are organized and presented. Among these artefacts, mood boards are tools that support designers’ search of materials, and synthetic approach.

### **Mood boards in the literature**

Mood boards are regularly cited as design tools (Takano, Kanazawa, Tabata, Sato, and Matsuoka, 2013; Michura & Radzikowska, 2013). First, mood boards elicit emotions and therefore tend to structure the user’s experience (Eckeert & Stacey, 2000; McDonagh & Denton, 2005). Baxter contends that “the mood of a product is the sentiment feeling or emotion which the product engenders when first seen. [...] A good mood board captures these feelings in images but without referring to specific product features which might limit the range of styling options considered” (Baxter, 1995 p. 222). Mood boards also collect styling features that have been successful in the past. This second characteristic of mood boards helps gather aesthetic cues for future designs (Tan & Melles, 2010). Mood boards therefore serve a double purpose in the design practice. First, they serve as a “reservoir” of

qualities, aesthetic properties, for the design work (See also Gonçalves, Cardoso, and Badke-Schaub, 2014). Second, they serve a communication purpose. They play a managerial role (McDonagh & Storer, 2005) as they convey styling objectives to members of the design team and customers.

But, as pointed out by (Garner & McDonagh-Philp, 2001), mood boards also raise mixed feelings for practitioners, students and professors alike. First, there is no guarantee that the communicational purpose is fully conveyed as participants can have a very different interpretation of what the images mean. The inspirational function of mood boards is not obvious either. First, mood boards can be too abstract. They do not help to make design choices and are therefore difficult to relate to tangible positioning and to actually embed in a real project. Second, mood boards may induce fixation in the design process (Cheng, Mugge, and Schoormans, 2014; Crilly, 2015; Purcell & Gero, 1996). The choice of images does not represent a starting point but rather serves to legitimate design choices already made. In between fixation and defixation, mood boards have therefore a delicate balance to strike. The consequence is that mood boards, like other reflective and messy synthesis processes, “are considered a ‘waste of time,’ as they aren’t positioned as actionable or immediately predictive” (Kolko, 2010). As we observed in both use cases, mood boards can be qualified by students as a simple stage to reach the desired goal, and may be easily discarded (when asked, our students revealed that they did not keep their mood boards). Mood boards are not seen as “proper work” that should be archived, because they seem too specific in time and space to be considered as relevant for further design enquiries.

These criticisms show that the art of doing good “mood boards” is not formally defined and that the method could finally be detrimental to the design process. Our first hypothesis is that by understanding the semio-pragmatic elements of mood boards, we should be able to better design them and show their functions and limits. Mood boards are specific documents that organize representations in a special way and that are meaningful within particular situations of design and design education. By analyzing both the documents and their reception, we want to understand their role in the design process and the type of knowledge they produce. Our second hypothesis is that mood boards, as part of a rationale of design, are related to fields of knowledge and disciplines. We want to better address this connection between practice and scientific disciplines.

## **Research Setting**

To address the question of the semiotic and pragmatic properties of mood boards in the context of education, and how this particular practice is related to scientific disciplines, we selected two use cases of design education that involved mood boards in the design process.

The cases reported in this paper were selected for three main reasons. First, the observations could take place at the very beginning of the education projects, which was a condition for the success of our longitudinal approach, as we could follow the various steps from brief to brief refinement through moodboards, to the development of a project. From the first

discussions on the overall purpose and format of the class in June 2014, to the more specific meetings preparing the class from September 2014 to March 2015, implying a continuous discussion with the professor in charge (through regular inquiries about the class and interviews) and participation in the definition of the different exercises, the authors could follow the different stages that framed the workshop of Use Case 1. For Use Case 2, the authors also participated in meetings that prepared, then evaluated the class that took place from March to June 2014. Second, the groups that participated in the project under study accepted that the authors could carry out an in-depth empirical study, which was another necessary condition to sustain our comprehensive approach to design practices at work. Third, the studied cases can be compared as they took place in different organizations—one design school and one engineering school—which makes it possible to see commonalities and differences.

Use Case 1 presents an observation done from January to February 2015 in a class of 16 master degree students enrolled in the “global design” program of a private design school in Paris. The design brief was presented as a reflection on “Design and Misbehaving” or “how to misbehave in design”. The students had to propose uncanny design practices. In this context, the students were organized in four groups of four and presented four mood boards.

Use Case 2 took place in an engineering school in Paris from March to June 2014. The program is called “Design and Innovation” and brings together competences in design, management and economics. Students have to develop a detailed scenario of use, interaction specifications, and aesthetics recommendations. In this use case, the students had to develop scenarios and interfaces after the following brief: “what would be an intelligent car that cares for me?” The brief was given by a car company that wished to tap into the technical culture of students. Each of the 20 students had to present a mood board.

We will compare these two use cases to extract the distinctive principles of the use of mood boards.

## **Description of mood boards**

In both use cases, mood boards had at least two explicit goals: creating a minimal culture for students who had never had a chance to work on these subjects and creating a resource for design cues.

## **Context and Pragmatic aspects**

The students used digital tools to make their mood boards (Power point, Adobe Illustrator, etc.). There were no other media. The presentations were made of various numbers of slides with collected images on each. Some were annotated. Mood boards were shared amongst students, whether during a formal public presentation or informally. In the design school (Case 1), the term “mood board” was not explained. The professors relied on the tacit

understanding that it was part of the students' culture of design practice, a common tool. In the second use case, examples were shown to help the engineering students to produce their own.

In both use cases, the students were evaluated on their capacity to be coherent but also "expansive" (Use Case 1's evaluation chart uses the criteria "richness of the universe"), that is, to develop an original approach to the project. The other explicit goal was that the students had to build a "minimum culture" on the subject. In Use Case 2, the professor also added that the process was part of the acquisition of a visual culture quite foreign to engineering students. She posited that they had to go "from ideas to concretization". While it was assumed that design students were comfortable with the use of visual references and their manipulation, it was assumed that engineering students were not.

Both curriculums have strong relations with the professional and industrial world. The mood board exercise also aimed at developing their professional skills. But at the same time, the purpose of the programs is also to disorient the students whether by the use of uncommon tools or methods, and/or by encouraging a deeply personal approach to an undefined problem.

### Analysis of mood boards

In Use Case 1, mood boards presented visual elements from different origins: other design projects, art photographs or actual products. For instance, one of the mood boards presented a photomontage of a design project (the portrait of a man with a vegetal beard) on the same level as artistic photographs (see Figure 1). A number of images came from critical design (Dunne, 2008; Mollon & Gentès, 2015) which emphasizes uncanny associations reinforcing the overall feeling of design as a source of tensions and questions. Pictures in the mood boards were also decontextualized and did not present obvious hierarchies between elements of various nature and origins.

But the documents also demonstrated a form of coherence. In the mood board already mentioned, coherence was achieved around the theme of vegetal hybridization. The two visuals on the left, while they lost the reference to the vegetal, kept the idea of a graft, here producing energy. Through this mood board, the students efficiently communicated an ecological discourse based on an aesthetical research around the hybridization of plants and human body. The visual of "TomTato", if it is not directly depicting the adjunction of vegetal to the body, denotes (as it is described in the caption) hybridization. Because this reference is a real commercialized product, it is possible that the students saw it as a proof of concept, as a way to make their fictional project more plausible.

When presenting their mood boards, students focused more on the visuals of the projects rather than an actual description or analysis of the quoted projects. When present, the captions referring to the artists and projects were hardly visible. Students admitted later that

they used these elements with two distinct purposes. The first was to “reassure” the professor by showing references related to the exercise, demonstrating the assimilation of the brief. But the focus on the visual aspect of references was a deliberate extraction from the project to display a personal interest engaging a novel interpretation and perspective that could lead to an original production.

### Symbiose organique

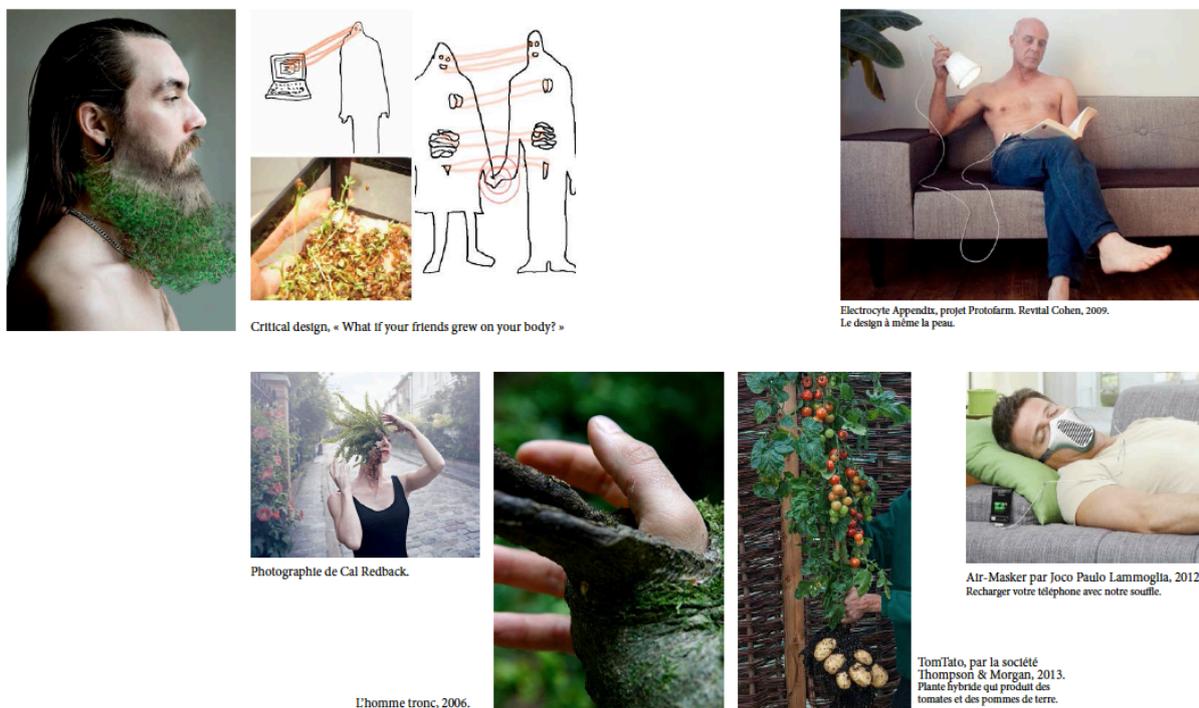


Figure 1: Mood board from Case 1: Visual elements come from different origins, design projects, art photographs or actual products. Here a photomontage (the portrait of a man with a vegetal beard) is on the same level as artistic photographs and products.

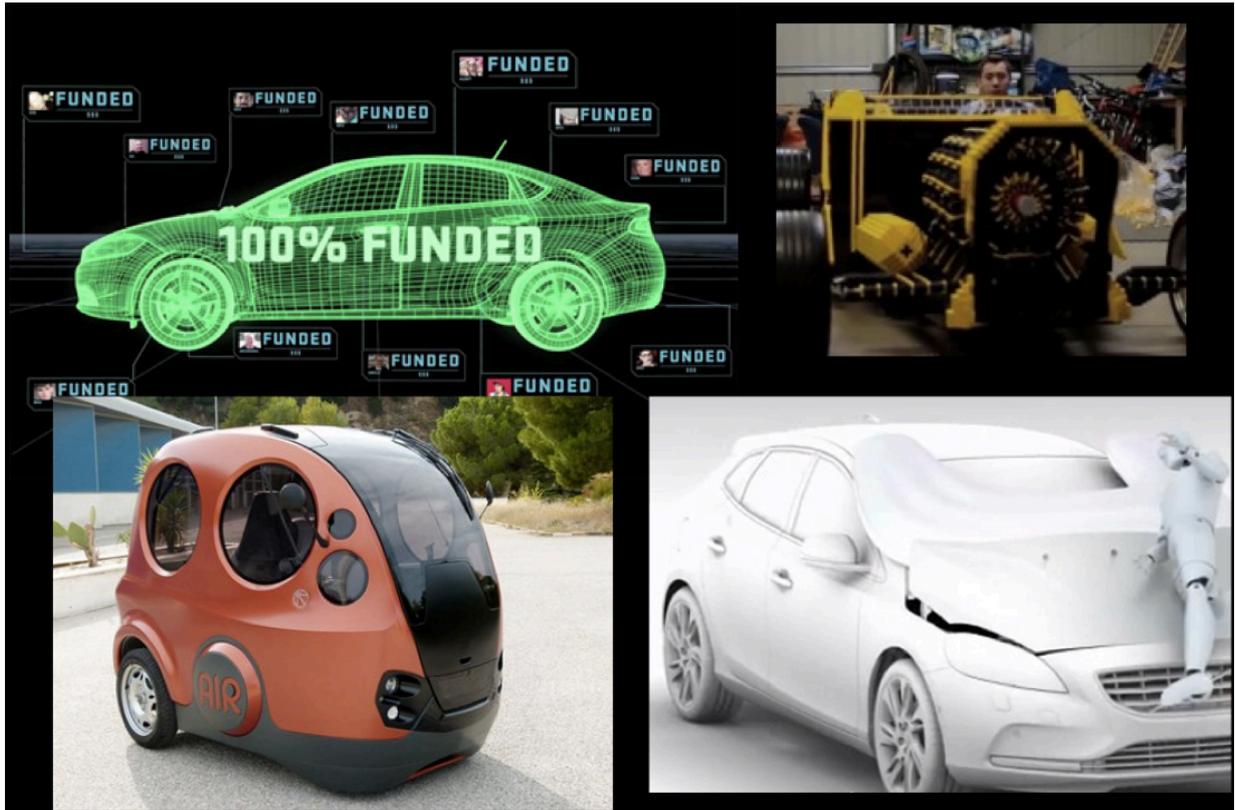
Also, during the presentation, student commented less on the mood boards, and far more about their future projects. According to their professor, it is because the mood board is supposed to speak by itself, to express emerging aspects of the project that revolve around a set of ideas only revealed through the project. The mood board finds its resolution in the future project and is otherwise very vague.

In Use Case 2, students were primarily discovering an industrial field without previous knowledge. Their mood boards therefore reflected their exploration of the field. They did not come up with “ordinary” cars but with innovative – concept or prototype - cars that were getting them nearer to the design brief. Their mood boards showed different research fields related to cars. As we can see in Figure 2, they picked up innovation in terms of safety, new driving panels, new forms of energy. They also looked into cars that fly or swim. In terms of materials, they were interested in changing pigments, in pliable material, in eco-friendly

cars. They also looked into infrastructure: connected cars in smart cities, evolving like a swarm. In terms of aesthetics, they chose very unusual vehicles that helped them reframe the vision of what a car is. Mostly their mood boards showed technological surveys of car innovations (see Figure 3).



Figure 2: Mood board from Case 2 displaying various innovations innovation in terms of safety, new driving panels, infrastructure or new forms of energy.



*Figure 3: Mood board from Case 2 displaying unusual cars, such as an eco-friendly car, one made of lego, one crowd-funded and the last displaying an external airbag.*

Nevertheless the students also looked for “things” that would be inspiring first in terms of physical sensations: for instance wet crabs, fish, water backgrounds that conveyed smooth, sliding, to the point of slimy sensations; second in terms of imaginary references: cartoons that showed a partnership between the person and her vehicle, whether “fusional” or friendly (Figure 4). The images also built an ambiguity between the hyper adapted, hyper connected, hyper controlled, and the chummy, comfortable, fun vehicle. One student who was thinking of going into marketing, actually came up with the most extreme choice of images as he picked up cars related to nature in all kind of ways: with tree growing out of the boot, garden cars, compost, etc.

Interestingly enough, the main difference between novice and expert practices of moodboards lies in their formal organization: design students used more rigorous ways of organizing materials and have a stronger inclination to pick up materials based on aesthetic properties.



*Figure 4: Mood board from Case 2 displaying inspirations in terms of physical sensations such as wet crabs, fish, that conveyed smooth, sliding, to the point of slimy sensations and imaginary references: cartoons showing a partnership between the person and her vehicle, whether “fusional” or friendly. It induces an ambiguity between the hyper adapted / connected / controlled car and the chummy, comfortable, fun vehicle.*

## **Epistemological properties of mood boards**

We suggest that the semiotic and pragmatic characteristics of mood boards can be analyzed as four cognitive and aesthetics operations: decontextualization, discretization, coherence, and relevance.

### **Decontextualization**

The analysis of mood boards presents several striking features for the design process. First, most of these images were not situated—the original websites were not mentioned. Rather than functioning as part of complex situations of use or part of a historical tradition, they were presented as decontextualized items. There were no examples taken out of the “history” of design. All the examples were contemporary. The design projects were therefore less

thought in terms of family of objects, tradition, or inscription in social uses, but more like radical innovations that needed to capture the latest aesthetic and technical traits.

## Discretization

Students and professors consider what can be obtained from these images, not the images as such. Only certain aspects of the represented objects will be kept for the future design. Mood boards constitute a reservoir of traits that can be extracted from the representations. The aspects that are discretized can be formal: a shape, a color, a structure, a technology. But designers do not necessarily retain the tangible features of the objects. The discretization can be symbolical: representations of emotions or sensations, for example a fish that stands for a weightless nautical environment, or political and social, for example a graft of grass that questions our relation to nature. Either as symbols for something else, or as parts for a design production, the students discretize the representation of the objects. They display a design competence that sees a cue for something else through a particular object or representation, or situation. This competence is based on a discretization of the elements so that they can be moved, translated, or recomposed in a new object.

## Coherence

The mood boards are not only a tool to discretize objects and representations. They strive towards a certain form of coherence. While gathered images can be considered as very heterogeneous at first sight, they are displayed on the same document. This collection is claimed to be meaningful for the design project. In other words, what is claimed behind the diversity is a convergence and a coherence of at least two kinds.

In the first type of coherence, images are presented as correlated in some way because they function as index of what can be done. For instance, in use case 2, students pointed out technical features that they would use in the design project. They therefore posited the articulation of different materials and/or technologies to build the design project. Coherence here is indexical because it focuses on the articulation of causes and effects.

Second, coherence can also be conveyed by a claim of similarity. Images function as iconic elements of an atmosphere, an aesthetic space. For instance, in case 1, colors and materials were evocative of the same palette. Coherence is therefore built in the mood boards either because the technical elements behind the images will be articulated, or because the aesthetic qualities of the design project are already staged.

The first type of coherence is generally associated with feasibility. Certain students stress more than others the need to make sure that the whole projected system will work (for instance in Use Case 2, a group of students supported a pragmatic approach of infrastructures versus services to counterbalance and support the more original propositions). The second type of coherence is seen more in terms of originality. Another way to interpret

the coherence of the document mood board is therefore to see that it tries to maintain a balance between feasibility and originality, something that is also at stake in brainstorming methods (Kazakci, Gillier, Piat, Hatchuel, 2014).

## Relevance

In our analysis, relevance is the last expected property of mood boards. Students claim that the elements that they choose and display contribute to define the value of the design project. Mood boards are not media for their own sake. They support the design of future projects. “The mood board has to help showing ‘where we are going’.” “One of the objectives of the mood board is to spot a visual universe, materials, a cosmology of objects and productions in which to find ‘something’ of their project.” Here the discourse that goes with mood boards has several functions. Not only does it describes for the audience what items should be seen “behind” the apparent heterogeneity and how to discretize the images for future design projects, it also anticipates the values of the design project. Students talk about future scenarios of use and the ethics of their projects. Every discretized item is a cue for a design that foregrounds the values that it wants to support.

Relevance in this context, means the social role and ethics of the designer “for a better world.” For designers, there is a “real world” that needs to be changed. Relevance is a claim and property of projects that can produce better situations (Harfield, 2008). Second, relevance defines how the project will be integrated in society. When cars were concerned, the students were optimistic that they could get rid of the car as we know it, so that it could become a real, highly connected, partner in mobility. The design project has to display its relevance in terms of contemporary values. For instance, none of the students recommended cars that would use more energy. And all the students envisioned a highly connected and social car. There is a rationale of norms that connects the projects to society (Habermas, 1986; Harfield, 2008).

## Discussion: synthetic and expansive values of mood boards

The rationale of mood boards is to create new knowledge based on observation of gathered images and items. But contrary to a traditional corpus in human sciences that helps to understand already existing objects (Rastier, 2001), corpuses in design find their resolution in objects to be. In design projects, the rationale of the corpus is present, in the sense that items are collected so as to address their commonality. But the commonality is not a given, it will only happen with the new design project. One strong sign that mood boards are not analytical tools is that the images are decontextualized. This decontextualization has at least one effect. It helps consider the object represented not as an example sustaining a theory demonstrated somewhere else but as a reservoir of traits that can be cut from the objects and

recomposed or translated somewhere else. This first decontextualization helps define the represented object not as a whole within a specific situation but an ensemble of traits to be considered for its future potential in different situations.

In that sense mood boards are not primarily analytical but synthetic and expansive. First, we consider how mood boards are synthetic. Kolko in her article on design synthesis points out a number of “messy” properties of the design process: “Synthesis methods have been continually referenced as critical in sensemaking, organization, and in drawing the important connections between apparently unrelated elements. These are the keys for relating research to design—synthesis methods are the ways in which ethnographic insights lead to new, innovative, appropriate, or compelling ideas” (Kolko, 2010, p.17). Synthesis is an abductive sensemaking process. Through efforts of data manipulation, organization, pruning, and filtering, designers produce information and knowledge for a future project. The coherence that is achieved by mood boards, relies on strong synthetic activities that extract common points and organize them around a theme or a quality: for example, the “buddy car”, the “sleek car”, the “witch car” in Case 2. Students have to demonstrate the commonalities of the represented artefacts or situations from a certain angle. One of the professors describes the mood board as an “exercise to bring homogeneity out of heterogeneity”. She emphasizes the need to “generate homogeneity”.

At the same time, the collection of items organizes a tension. The representations are really incompatible at first sight. The work of interpretation is highly regarded if the capacity to organize tensions is generative of a variety of unpredictable combinations. For the professors, this is a key element to judge of the originality of the students’ work. In other words, the corpus does not close on a type, a genre, but has to be expansive of a new object that will solve the “apparent” contradictions: as stated in an interview by the professor supervising Case 1, “for the professor, ideally, soliciting heterogeneous sources allows students to generate more fertile ideas out of analogies, metaphors, etc.” Mood boards are therefore documents that structure expansion through a number of semiotic properties that we analyzed in the previous sections of this article.

## **Conclusion: Sciences of conception and in-discipline**

Findeli (2001) following Moholy Nagy (1947) suggests that it is more important to focus on the design project and its formal operations – such as those that we describe in the practice of mood boards – rather than focusing on inter-disciplinarity *per se*. The attention is therefore drawn to relations within documents whose goal is precisely to be conceptive through formal meaning making as well as the pragmatics of these documents. Following Joyce S. R. Yee and Craig Bremner and on the basis of the analysis of the properties of these mood boards, we propose that a mood board “consists of combining methods from the social sciences, humanities, and hard sciences to derive a suitable model of inquiry.” (Yee, Bremner, 2011, p.1). The following section discusses how these practices are related to disciplines and / or scientific methods.

At first sight, practices like mood boards seem un-disciplinary as suggested by Bremner and Rodger (2013). They might be described as un-disciplined because:

- Those documents need the author's and the audience's capacity of interpretation. These means of interpretation, the ways to make sense of the elements, are not specified in the exercise, hence an accusation of subjectivity;
- They seem to pick indiscriminately between elements of different natures;
- Mood boards channel ways of doing work without disciplinary restrictions. They maintain a goal (an issue that needs to be solved between the elements) but remain vague on the ways to achieve it.

As we have seen in the previous sections of this article, this perception is in fact disproved by the analysis of the semio-pragmatic characteristics of mood boards. In our conclusion, we want to suggest that rather than un-disciplinary, they are part of an “in-discipline” as Rancière defines it (Dubreuil, 2007).

Following Rancière (Dubreuil, 2007), we suggest that a mood board is part of the in-discipline of design. Rancière, who is a philosopher of art and design, qualifies a certain number of forms that deliberately reframe what can be seen and what can be thought. As he studies contemporary art forms, he concludes that conception is based on formal constraints that help reframe the set of solutions. These “dispositifs”, or arrangements, deliberately create a plane of conception independent of any set discipline. This autonomous plane of conception makes it possible to select items from disciplines—either their facts, methods, or theories—to compose new relations. In this respect, design entertains a special relation to other disciplines by its capacity to organize a rigorous method of interplay with the disciplines (Schmid & al., 2011) which, we suggest, could help define design as an in-discipline: that is a discipline that plays with disciplines in a rigorous formal way.

But the question is how do these autonomous conceptive spaces produce rigorous results. The tools of conceptive sciences (including engineering sciences) cannot be the same as sciences of nature that observe the real. Conceptive sciences build new artifacts and therefore need to address the question of a rigorous conception. What needs to be guaranteed from an epistemological point of view is the conceptive validity of the processes and tools.

In this respect, mood boards can be considered as a design rationale that organizes an in-discipline with formal meaning making. By creating a purposefully oriented set of heterogeneous objects within a document, mood boards create a cluster of possible relations. In other words, the formal qualities of the documents frame the different operations that we suggest are the rationale of design: decontextualization, discretization, coherence, and relevance.

To summarize our findings:

- Moodboards have four epistemological properties: Decontextualization, Discretization, Coherence, Relevance;

- In Design Education, moodboards present synthetic and expansive values as they organize tensions while generating homogeneity, which helps to reframe what can be seen and what can be thought;
- They suggest that design is an “in-discipline,” as it picks elements of different natures to constitute a formal assemblage that plays with disciplines in a rigorous formal way.

## References

*Arrêté du 17 juillet 1984 portant création d'une classe de mise à niveau d'art appliqué...*

*Arrêté du 30 juillet 2012 portant définition et fixant les conditions de délivrance du diplôme supérieur d'arts appliqués « design ».*

*Arrêté portant définition et fixant les conditions de délivrance du brevet de technicien supérieur «design de produits» modifié par l'arrêté du 22 août 2006 et par l'arrêté du 8 avril 2009.*

*Arrêté du 5 avril 2012 portant définition et fixant les conditions de délivrance du brevet de technicien supérieur « design graphique » ...*

*Extraits du Bulletin officiel spécial du 29 avril 2010.*

Adams, R. S., Turns, J., & Atman, C. J. (2003). Educating effective engineering designers: the role of reflective practice. *Design Studies*, 24(3), 275–294. [http://doi.org/10.1016/S0142-694X\(02\)00056-X](http://doi.org/10.1016/S0142-694X(02)00056-X)

Baxter, M (1995) *Product design: practical methods for the systematic development of new products* London: Chapman and Hall

Bremner, C., & Rodgers, P. (2013). Design Without Discipline. *Design Issues*, 29(3), 4–13. [http://doi.org/10.1162/DESI\\_a\\_00217](http://doi.org/10.1162/DESI_a_00217)

Brookes, C. (1992). Relationships of theories and practice in art and design teaching. *Journal of Art & Design Education*, 11(2), 155–165.

Cheng, P., Mugge, R., & Schoormans, J. P. L. (2014). A new strategy to reduce design fixation: Presenting partial photographs to designers. *Design Studies*, 35(4), 374–391. <http://doi.org/10.1016/j.destud.2014.02.004>

Chin, C. D. (2011), ‘Critiquing commonly available multicultural art education resources’, *International Journal of Education through Art*, 7: 3, pp. 299–313.

Crilly, N. (2015). Fixation and creativity in concept development: The attitudes and practices of expert designers. *Design Studies*, 38, 54–91. <http://doi.org/10.1016/j.destud.2015.01.002>

Cross, N. (2001). Designerly Ways of Knowing: Design Discipline Versus Design Science. *Design Issues*, 17(3), 49–55. <http://doi.org/10.1162/074793601750357196>

Cross, N. (2006). Design as a discipline. *Designerly Ways of Knowing*, 95–103.

Cross, N., Christianns, H., & Dorst, K. (1994). Design expertise amongst student designers. *Journal of Art & Design Education*, 13(1), 39–56.

Daalhuizen, J., Person, O., & Gattol, V. (2014). A personal matter? An investigation of students’ design process experiences when using a heuristic or a systematic method. *Design Studies*, 35(2), 133–159. <http://doi.org/10.1016/j.destud.2013.10.004>

Dubreuil, L. (2007). Défauts de savoirs. *Labyrinthe*, (27), 13–26.

Dunne, A. (2008). *Hertzian Tales: Electronic Products, Aesthetic Experience, and Critical Design*. Cambridge, Mass.; London: The MIT Press.

Dutton, T. (1991). The Hidden Curriculum and the Design Studio: Toward a Critical Pedagogy. In *Voices in architectural education : cultural politics and pedagogy* (pp. 165–194). New York: Bergin & Garvey.

- Dykes, T. H., Rodgers, P. A., & Smyth, M. (2009). Towards a new disciplinary framework for contemporary creative design practice. *CoDesign*, 5(2), 99–116. <http://doi.org/10.1080/15710880902910417>
- Eckert, C., & Stacey, M. (2000). Sources of inspiration: a language of design. *Design Studies*, 21(5), 523–538.
- Fallman, D. (2008). The interaction design research triangle of design practice, design studies, and design exploration. *Design Issues*, 24(3), 4–18.
- Findeli, A. (2001). Rethinking design education for the 21st century: Theoretical, methodological, and ethical discussion. *Design Issues*, 17(1), 5–17.
- Findeli, A. (2006). Qu'appelle-t-on théorie en design? Réflexions sur l'enseignement et la recherche en design. In B. Flamand (Ed.), *Design : essais sur des théories et des pratiques* (Éditions du Regard, pp. 77–97). Paris.
- Findeli, A., Brouillet, D., Martin, S., Moineau, C., & Tarrago, R. (2008). Research Through Design and Transdisciplinarity: A Tentative Contribution to the Methodology of Design Research. *Swiss Design Network Symposium*, 67–91.
- Flamand, B., Collectif, & Racine, B. (2006). *Le design : Essais sur des théories et des pratiques*. Paris: Editions du Regard.
- Folkmann, M. N., & others. (2010). Enabling creativity. Imagination in design processes. In DS 66-2: Proceedings of the 1st International Conference on Design Creativity (ICDC 2010). Retrieved from [https://www.designsociety.org/publication/30283/enabling\\_creativity\\_imagination\\_in\\_design\\_processes](https://www.designsociety.org/publication/30283/enabling_creativity_imagination_in_design_processes)
- Gall, D. A. (2008). 'Navigating a way through plurality and social responsibility', *JADE – Journal of Art and Design Education*, 27: 1, pp. 19–26.
- Garner, S., & McDonagh-Philp, D. (2001). Problem interpretation and resolution via visual stimuli: the use of “mood boards” in design education. *Journal of Art & Design Education*, 20(1), 57–64.
- Mollon, M. Gentès, A. (2015). Critical design. In D. Bihanic (Ed.), *Empowering users through design* (Springer, pp. 79–101). Switzerland.
- Goldschmidt, G., & Smolkov, M. (2006). Variances in the impact of visual stimuli on design problem solving performance. *Design Studies*, 27(5), 549–569. <http://doi.org/10.1016/j.destud.2006.01.002>
- Gonçalves, M., Cardoso, C., & Badke-Schaub, P. (2014). What inspires designers? Preferences on inspirational approaches during idea generation. *Design Studies*, 35(1), 29–53. <http://doi.org/10.1016/j.destud.2013.09.001>
- Gregor, S. D., & Hart, D. N. (2010). *Information systems foundations the role of design science*. Acton, A.C.T.: ANU E Press. Retrieved from [http://epress.anu.edu.au/info\\_systems03\\_citation.html](http://epress.anu.edu.au/info_systems03_citation.html)
- Habermas, J. (1986). *The Theory of Communicative Action: Reason and the Rationalization of Society* (Volume 1). Boston: Polity Press.
- Hadjiyanni, T. (2014). Beginning with concept: Deconstructing the complexity of “culture” through art in design education. *International Journal of Education Through Art*, 10(1), 23–39. [http://doi.org/10.1386/eta.10.1.23\\_1](http://doi.org/10.1386/eta.10.1.23_1)
- Harfield, S. (2008). On the roots of undiscipline. Retrieved from <https://opus.lib.uts.edu.au/research/handle/10453/11317>
- Hatchuel, A., Le Masson, P., & Weil, B. (2011). Teaching innovative design reasoning: How concept–knowledge theory can help overcome fixation effects. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, 25(01), 77–92. <http://doi.org/10.1017/S089006041000048X>
- Kazakci, A. O., Gillier, T., Piat, G., & Hatchuel, A. (2014). Brainstorming versus creative design reasoning: a theory-driven experimental investigation of novelty, feasibility and value of ideas. *Design Computing and Cognition*. Retrieved from [http://cgs-mines-paristech.fr/wp-content/uploads/2014/03/Kazakci\\_et\\_al\\_DCC14.pdf](http://cgs-mines-paristech.fr/wp-content/uploads/2014/03/Kazakci_et_al_DCC14.pdf)
- Kolko, J. (2010). Abductive thinking and sensemaking: The drivers of design synthesis. *Design Issues*, 26(1), 15–28.
- Lu, C.-C. (2015). The relationship between student design cognition types and creative design outcomes. *Design Studies*, 36, 59–76. <http://doi.org/10.1016/j.destud.2014.08.002>

- McDonagh, D., & Denton, H. (2005). Exploring the degree to which individual students share a common perception of specific mood boards: observations relating to teaching, learning and team-based design. *Design Studies*, 26(1), 35–53.
- McDonagh, D. and Storer, I. (2005). Mood boards as a design catalyst and resource: Researching an under-researched area. *The Design Journal*, 7(3), 16-31
- McKay, J., & Marshall, P. (2007). Foundations of design science in information systems. . Presented at 19th Australasian Conference on Information Systems (ACIS), Australia, 2008.
- McNamara, A., Ross, T., & others. (2007). On Medium Specificity and Discipline Crossovers in Modern Art. Retrieved from <http://search.informit.com.au/documentSummary;dn=751740945969449;res=IELHSS>
- Michura, P., Radzikowska, M.(2013). Seeing the forest and its trees. A hybrid visual research tool for exploring look and feel interface design (pp.4465-4476). Presented at IASDR, Tokyo, Japan.
- Moholy-Nagy, L. (1947). *Vision in Motion*. Paul Theobald & Co.
- Ozkan, O., & Dogan, F. (2013). Cognitive strategies of analogical reasoning in design: Differences between expert and novice designers. *Design Studies*, 34(2), 161–192. <http://doi.org/10.1016/j.destud.2012.11.006>
- Purcell, T. A., & Gero, J. S. (1996). Design and other types of fixation.pdf, 17(4), 363–383.
- Rastier, F. (2001). *Arts et sciences du texte*. Paris: Presses universitaires de France.
- Schmid, A.-F., Mambrini-Doudet, M., & Hatchuel, A. (2011). Une nouvelle logique de l'interdisciplinarité. *Nouvelles perspectives en sciences sociales*, 7(1), 105. <http://doi.org/10.7202/1007084ar>
- Schon, D. A., & Wiggins, G. (1992). Kinds of seeing and their functions in designing. *Design Studies*, 13(2), 135–156.
- Stein, Z. (2007). Modeling the demands of interdisciplinarity: Toward a framework for evaluating interdisciplinary endeavors. *Integral Review*, 4(1), 91–107.
- Takano, S., Kanazawa, S., Tabata, H., Sato, K., Matsuoka, Y.(2013). Proposal of A Multispace Design Method Corresponding to Diverse Usage (pp.38-47). Presented at IASDR, Tokyo, Japan.
- Van Dooren, E., Boshuizen, E., van Merriënboer, J., Asselbergs, T., & van Dorst, M. (2013). Making explicit in design education: generic elements in the design process. *International Journal of Technology and Design Education*, 24(1), 53–71. <http://doi.org/10.1007/s10798-013-9246-8>
- Yee, J., & Bremner, C. (2011). Methodological bricolage: What does it tell us about design? Retrieved from <http://nrl.northumbria.ac.uk/8822/>

## Author Biographies

### Gentès Annie

Annie Gentes is associate professor in Information and Communication Sciences at Telecom ParisTech and Head of the Codesign Lab. Her research focuses on “extreme design” – design in research and design in society - and the invention of ICT. She works with artists, designers and engineering scientists to understand their specific conceptive activities that turn a technology into meaningful artifacts.

### Valentin Frédéric

Frédéric Valentin is a PHD Student in Design and Media Studies at Telecom ParisTech. His research takes interest in “openness” in design practices through an historical perspective.

He seeks understand the properties of an “open work of design” by analyzing current and previous work in art, design, etc.

### **Brulé Émeline**

Émeline Brulé is a PHD Student in Design and Media Studies at Telecom ParisTech. Her research focuses on wearable technologies dedicated to health. She studies “smart” objects to develop a comprehensive framework of this family of objects. Using critical design, she explores the way we define our bodies via this new kind of prosthetics.