Technical object connecting artistic practices:

Abstract:

This communication explores the technical object and its relation to contemporary artistic expressions such as installations and videos through visual literacy. The technical object functions as prosthesis of the real; a sacred object that nevertheless never attains the status of a cultural object. In functioning so, Simondon's approach of addressing the understanding the technical object's mode of existence through philosophical thought is worth exploring further in a context of visual literacy.

The investigation of the technical object brings us into the individuation concept of the object as well as the subject. In this perspective, it activates complex connected phenomena, where the object helps us to better perceive the issues at stake related to the artist's individuation process through a technical effort.

In this communication, I examine Lévi-Strauss' notion of *bricolage* and the comparison between the *bricoleur's,* the scholar's, the artist's and the engineer's approaches, from the *bricolé* object to the installed object. Through these different practices, I will explain artistic practices and the possibility to develop in education of design.

To develop the artistic individuation process I introduce the theoretical model *"design - realization - socialization"* which was conceived initially as a means of mapping the activity. This model has been developed as a whole and in all its complexity during the manufacture of an object. The foundations of this theoretical framework are numerous and are articulated across three distinct timeframes: design, realization and socialization.

Key word: technical object, bricolage, artist, researcher, individuation.

Introduction:

Contemporary artistic creation is characterized by numerous practices where artists, graphic artists, architects and designers draw on a repertoire of images and forms that they interpret and appropriate. Visual education (visual literacy) needs to equip creators/designers of objects and products with the ability to read, understand and interpret a visual culture. Within this culture, we suggest that we focus on the technical object, its history and how it works. We

make the following assumption: that the object is at the root of contemporary practices because it connects the subject to the world and crystallizes human activity. Hence, we propose connecting visual literacy and the creation of works and products to the technical object and the practices crystalized within it. More than merely educating the eye, what should be understood is this ability of the subject to develop an artistic practice and to free itself intellectually through the appropriation of knowledge and expertise in the context of visual literacy. We start from the definition by Philip Yenawine (1997): "Visual literacy is the Ability to find meaning in imagery. It involves a set of skills ranging from simple identification – naming what one sees –to complex interpretation on contextual, metaphoric and philosophical levels."

In this discussion, we suggest beginning with images that place technical objects in a *mise en abyme*, to better understand their ability to connect us to the world and to knowledge within artistic and educational contexts. We start from the Simondon premise (1989) on the genesis of technical objects. Then, we extend this discussion by focusing on the work of the engineer, the *bricoleur* (handyman), the artist and the scholar portrayed by Lévi-Strauss (1962). Finally, we propose a synthesis of these two theoretical approaches by presenting the *Conception-Realization-Socialization* didactic model in the context of teacher training.

The technical object, this fragment of human event, this prosthesis of the real:

According to Simondon's premise, culture is set up as a system of defense against technics. The loss of cultural universality, with its fixed norms, tends to establish culture as a discipline. The opposition between culture and technics brings us back to the confrontation between man and machine. Hatred of machines - of technical objects - is based on a refusal to accept the alien reality (Simondon, 1989). By its design and production, the ubiquitous machine is conceived as an artefact of human activity.

Simondon notes the singularity between the technical object and the scientific object, which is an analytic object. The technical object is located at the nexus of a multitude of scientific data and effects; it integrates different, seemingly disparate kinds of knowledge that cannot be intellectually matched. Its structure refers to complexity, which can be understood from a practical point of view. The object is thought of as synthetic because it is based on a history of its own it is the result of evolution and of various advanced techniques. The technical object is

characterized as an anthropological fragment, an artefact of human events, reduced to its useful function without reflecting its origin.

By investigating the technical object, Simondon (1989) provides a history of the technics whereby the relationship to power and knowledge allows the subject to individuate himself and to develop self-consciousness through his technical effort.

From technical object to artistic object:

To better understand the technical object, Simondon uses the example of the *Encyclopédie* developed by Diderot and d'Alembert in the eighteenth century. *The Encyclopédie* is a technical universe that puts knowledge into the hands of the subject, by giving him the opportunity to individuate himself without being beholden to a minority holding that knowledge. It is characterized as a meeting place between the artistic, technical and ideal objects. Following massive industrialization beginning in the eighteenth century, the notion of progress in the context of hyper-industrialization is gradually casting aside the technical culture of encyclopedic culture, a supposedly universal culture (Simondon, 1989). To assess the *Encyclopédie* as a place of observation of a technical object producing a universal culture in the eighteenth century, it should be characterized as a tool of power and knowledge.

The transformation of this technical subject over the centuries speaks of a transformed society where art and technology have diverged. Art becoming the ambassador of culture at the expense of technics, which came to be gradually rejected. The role of the artist is of particular interest to us in this discussion because he will continue to act as ambassador between artistic culture and technical culture.

The link between technical culture and artistic culture is a particularly significant relationship in Marcel Duchamp's approach and more precisely in his readymades.

Marcel Duchamp, by combining a stool with a bicycle wheel, crystallized a meeting between the technical object and the knowledge object, which also became an art object. The work *Roue de Bicyclette (Bicycle Wheel)* was developed in 1913 and it was only beginning in 1915 that Marcel Duchamp used the term readymade to characterize this new type of "ready-made" sculpture. Created in 1913, the work bears no specific terminology and is effectively an intuitive act of artistic searching. Marcel Duchamp is intuitively seeking a new way to connect the everyday object to the knowledge object. Thus, the readymade emphasizes this stage of conceptualization of the object beginning with the everyday object. This readymade

technique returns technical culture to universal culture and reclaims the industrialized object in its daily experience.

Marcel Duchamp isolates the everyday object to better break through its functionality and renders the stool unusable by connecting it to a bicycle wheel. The bicycle wheel inverted on top and installed on a four-legged base loses its primary utility.

This readymade announces the destruction of backward-looking representations related to talent and artistic genius. A place of destruction, at once violent and abstract, it will spread to the other works and lend the museum a more everyday dimension. This first readymade act as a beacon, sweeping its beam of light over the phases of global changes, from the Soviet revolution to global wars, these violent transformations crystallize and deeply color the technical objects of the twentieth century. *Bicycle Wheel* asserts itself as an historical and political prelude and, therefore, Marcel Duchamp casts an anthropological look at this prelude through a detached object that nonetheless keeps its connectedness as a key point of contact with human reality. The act of creating the readymade by Duchamp is based on a misuse of the technical object taken from daily life. His gesture transforms the art of the twentieth century and marks the end of a traditional and academic vision of works of art. Through this act, the artist transforms himself and performs his artistic work and [defines] the image of the artist to come in the twentieth century. We can compare this transformation to the concept of technical effort explained by Simondon, which allows the subject to establish himself as an individual individualized and emancipated from traditions. Thus, Marcel Duchamp established himself as the initiator of multiple and complex artistic practices. Through his appropriation of the technical object from daily life, he reconceives the artistic act and the relationship to learning and knowledge. Therefore, the artist is no longer subservient to artistic techniques, but rather to a practice in the sense of a posture. This gives him the opportunity to break free from traditions and corporations.

From working on materials to mixed practices:

To understand an artistic practice, its meaning, its function and its purpose must all be questioned. Is the practice part of an approach or a posture? An approach is defined as a way of acting or thinking, it also means, in its original sense, a way of walking. As for posture, it is both the side of the subject in a given context, but also of the object and situation, which makes it difficult to capture and defies any labelling of the subjects (Bucheton and Soulé, 2009).

By acting upon materials, man works transformations on the world and on himself. Lévi-Strauss defines the concept of bricolage (1962) by providing an analysis of the work of producing everyday objects, which still persists today. Its theoretical framework compares and contrasts the different postures of the "bricoleur" (handyman), the engineer, the scholar and the artist.

The work of the bricoleur is constrained by the objects or fragments of objects he collects and combines in new ways. In turn, the scholar takes up a similar function in identifying theoretical frameworks on which he bases his conceptual work by employing an essentially epistemic register. This figure of the scholar is a reminder that the researcher's work approaches a kind of intellectual bricolage (Lévi-Strauss, 1962).

The two critical themes of this analysis of activity are based on the distinction between *bricoleur* and engineer. The approach of the bricoleur is associated with pragmatic work, within the material world, here below. The approach of the engineer returns to the epistemic method, located in the beyond and accustomed to investigation and questioning (Lévi-Strauss, 1962).

The bricoleur works with his hands, while the engineer conceptualizes and proposes an action plan related to a production process. The bricoleur shapes his work relying upon a predetermined set of tools and objects, while the engineer questions the universe (Lévi-Strauss, 1962). The work of the engineer finds its origin in the conceptual world and puts forward preliminary work that analyzes the various elements needed for his project.

The analysis of constraints and different phases, intrinsic to his action plan, will therefore result in a presentation on the material, which will identify what is possible, the constraints and the unexpected. The artist meanwhile, is located halfway between the material world and the conceptual world because he is both scholar and *bricoleur* (Lévi-Strauss, 1962). The theoretical framework of Lévi-Strauss provides a broad understanding of the artistic practices of the twentieth and twenty-first centuries. The artist, at once *bricoleur*, engineer and scholar, hijacks technical objects that nourish his practice and his thinking. By starting from objects or fragments of objects, he innovates in his practice and participates in individuating his position (Heinich, 2005).
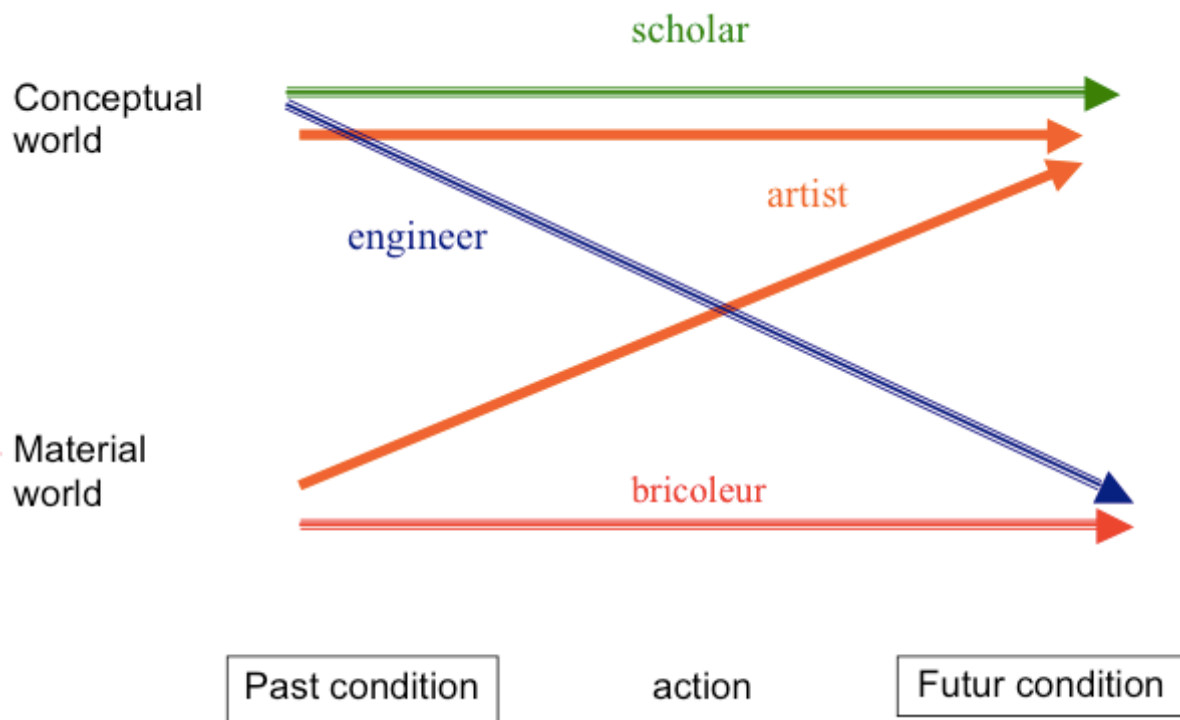
Starting with Duchamp, the activity of artistic research is based on the hijacked, appropriated and claimed technical object. This gives rise to the creation of multiple artistic postures where the question of bricolage often appears key.

Der Lauf der Dinge, 1987, 30 mn, by Fischli and Weiss, extends and deepens the movement brought about by the readymade *Bicycle Wheel*. In a workshop - an artistic laboratory - a series of installed and patched-together objects cause physical and chemical reactions, exerting a real power to fascinate the viewer. The objects are characterized as actors in an installed performance. A series of causes and effects leads to flights, anticipated movements that keep the viewer, now turned voyeur, spellbound. From discarded and recycled objects, the artists trace the evolution of humanity in perpetual motion, where the object acts as an instrument revealing this perpetual moment.

Fischli and Weiss set technical objects in motion in order to rethink social relationships in their technical and technological development. Humanity stands before us, through its waste, it turns, empties itself and reacts. A technical culture emerges from the workshop and invites us to address this ability of the everyday object to conceptualize and create knowledge. In this video, the viewer briefly returns to his childhood, fascinated by a changing world where objects rotate, explode, move forward, whistle, burn and ejaculate. Humanity is replayed before our eyes, both spectacular and formed of bits and pieces.

Der Lauf der Dinge fragments the real and stages it in the studio. This revisited Duchampian machinery lends every object an exclusive use, which involves participating in a collective journey. Because it is a collective performance where each object/subject acts out a key role, without which the collective motion is impossible. Fischli and Weiss offer us a vision of an "objectified" world, able to distance itself from the everyday while activating it. Beyond the concept and its physical presence, the object investigates the research process and sets it in motion. The viewer comes out of this experience entertained, and yet, the objects have changed something in him, his object-gaze. Here, the subject investigates the research activity because it ultimately reminds us that the researcher is a handyman and the greatest discoveries have often been the result of chance or accident. Fischli and Weiss replay accidental everyday practices where the acts of tipping over, falling, burning, exploding and spilling in their turn remind us of daily acts giving rise to artistic material. The artistic approach developed by Fischli and Weiss is based on hijacking and staging objects. Their artistic process allows us to question the role of the object in both art and technology education.

The artistic practices in the context of the education of art and technology:

The investigation of the object and its relation to visual literacy brings us into the individuation concept of the object as well as the subject. In this perspective, artists activate complex connected phenomena, where the object helps us to better perceive the issues at stake related to the artist's individuation process through a technical effort.

To introduce this development of the artistic individuation process I will introduce the theoretical *"design - realization - socialization"* model (Didier & Leuba, 2011, Leuba & al, 2012), which was conceived initially as a means of mapping the activity. This model was developed as a whole and in all its complexity during the manufacture of an object. The foundations of this theoretical framework are numerous and are articulated across three distinct timeframes: design, realization and socialization.
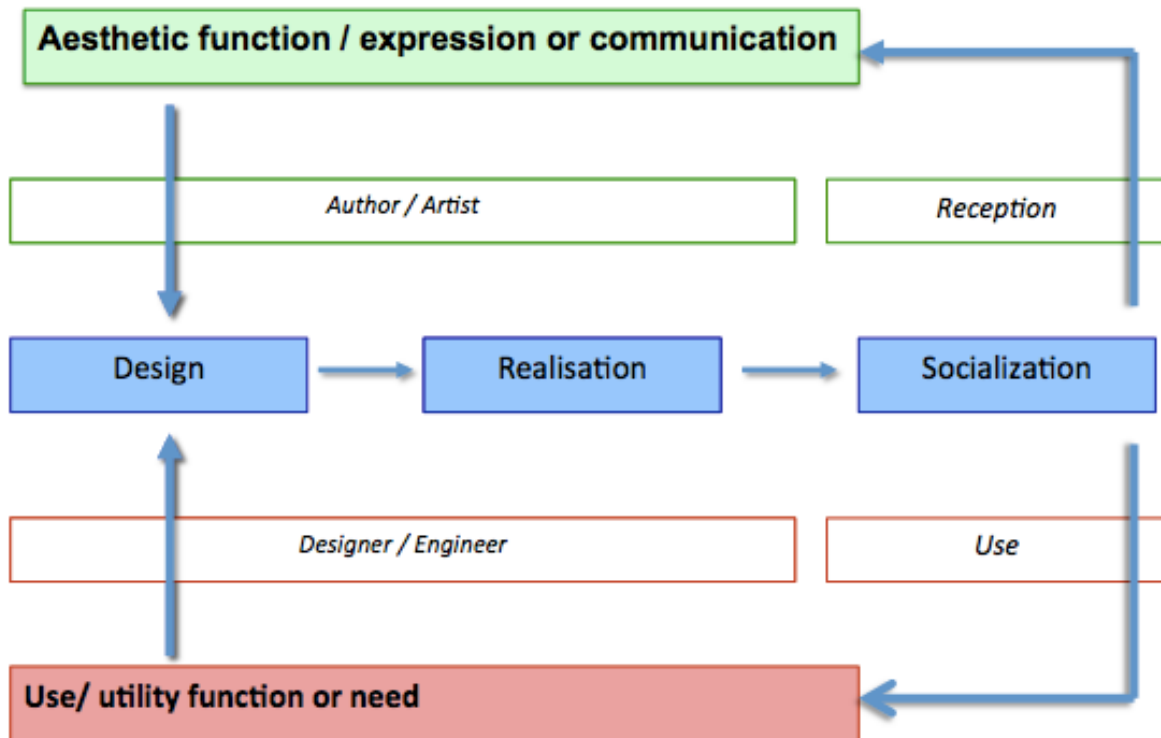
A fundamental aspect of the "design-realization-socialization" model comes from considering the activity of socialization as the creation of specifications that set the parameters of the design activity. The activity of socialization serves to address a context of reception and/or utilization. Deforge (1990) questioned the reception and function of the object by providing a functional distinction in the manufacturing process and the approach used. "There is work where the aesthetic function overrides the use function and/or where there is the appearance of singularity for the consumer. There are products where the use function overrides the aesthetic function and/or where there is an appearance (for the consumer) of banality." (Deforge, 1990, p. 20). This distinction suggests two discrete approaches: the approach of the author/artist, who creates an object with an aesthetic function corresponding to an expression or communication; and the approach of the designer/engineer, who designs an object with a use function intended to satisfy a purpose or need.

The cognitive operations induced by the activity of design (Bonnardel, 2000) lead students to enter into a contextualized creative process. Design demands identifying and analyzing the problem and finding innovative and appropriate situations for the purposes of realization (Perrin, 2001). The activity of design includes the stages of the process of creativity by using divergent thinking. This appears as a key element in the design phase, where the author/designer must abandon the everyday in order to explore the world of ideas and to

propose innovative solutions. Divergent thinking, underused in schools (Lubart, 2003), is one of the key phases of the design activity. The selection of the ultimate idea must then factor in all the needs and constraints of the object. This demands convergent thinking that takes into account the subject's different parameters. In this design phase, we see the intervention of several transversal skills used in other disciplines. The task of innovation, combined with the constraints imposed by materials, as well as the implementation and functional use of the object, stimulates students and systematically teaches them to anticipate.
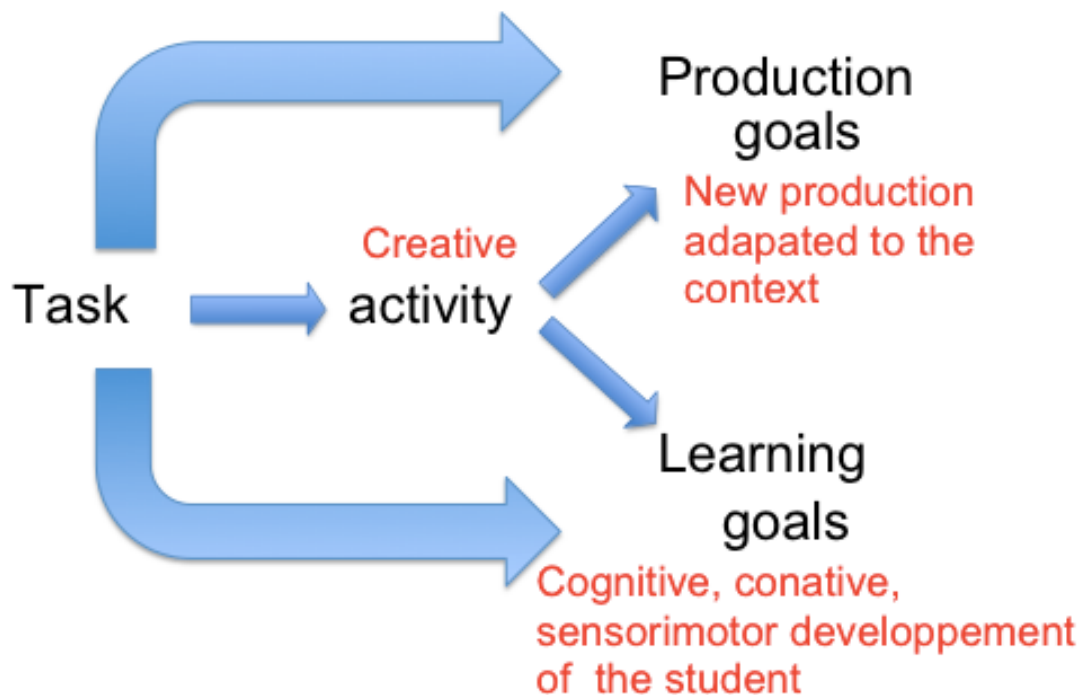
The "design-realization-socialization" model offers a way of enhancing a greater understanding of the relationship between production and conceptualization. This model invites the subject to go beyond a reductive understanding of the production process traditionally limited to the activity of realization. By deploying the design activity, the subject appropriates the approach of the scholar but also that of the engineer and the artist. Both are capable of identifying all the possible related to the various given constraints. The activity of socialization requires the subject to investigate the context of receiving, through the use of the object for studying the behavior of the intended receiver of the object. Thus, the subject is led to move from one register to another, to understand and appropriate an approach. Production is not seen as more limited than automated reproduction, but it becomes the center of questioning, experimentation and appropriation of expertise and knowledge. The Theoretic

Design-Realization-Socialization model picks up Lévi-Strauss's approach to comparative approaches by steering the subject to situate himself in a research approach and to appropriate the pragmatic (Doing) and epistemic (Becoming aware) registers within a production and learning process.

Conclusion:

By comparing the approaches related to working on materials, Levi-Strauss (1962) calls forth multiple postures that are enriched and nourished by disciplinary diversity, shuttling between artistic culture and technical culture. In this context, he nourishes and enriches the understanding of artistic practices (artist, designer, architect etc.) accustomed to confronting the material and appropriating and transforming everyday objects. Similarly, the "design-realization-socialization" model places the subject in training within approaches that give rise to questioning and to knowledge. This model places the subject in a contextualized creative process. Thus, the subject irrigates himself with different artistic practices, where the activity of design, realization and socialization leads the subject to question social phenomena and to appropriate industrial and/or artistic production processes. More than a theoretical model, this teaching model supports the subject in a contextualized method of investigation. Therefore, the subject becomes a researcher able to crystallize his action and to innovate in response to new situations. More than a simple assimilation of visual literacy, artistic practices allow subjects to appropriate multiple approaches that are capable of appropriating the kind of expertise that is only perceptible while working on the materials. This tandem between practice and awareness characterizes and defines this multiplicity of comparative approaches of Lévi-Strauss. In this way, the subject experiences the individuation process through his technical effort accompanied by the crystallization of a product or work of art.

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