

Mapping the Mind: collaborative creativity as alternative transformative practice

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Since 1990 in her book *The Creative Mind* Margaret Boden notes the existence of three types of creativity: combinational, exploratory and transformative creativity. Her main concern is to understand the origins and formation of creative ideas, within the context of discovery. The 'idea' the author refers to, could be taken as a structure to satisfy a style of thought or a solution for that style. According to Boden the solution and the style are associated with the conceptual space (system generator - genesis / training - which maintains a given area and defines a certain set of possibilities) thus, the greater the knowledge about the conceptual space, the greater the chances of obtaining better creative solutions.

Mihaly Csikszentmihalyi (1996), also points to creativity as the result of the interaction of a system composed of three elements: a culture (which contains symbolic rules), a person (which brings new features within the symbolic field) and a panel of experts (who recognize and validate the innovation).

What is the creative process?

According to the Encyclopaedia Britannica¹ creativity is 'the ability to make or otherwise bring into existence something new, whether a new solution to the problem, a new method or device, or a new artistic object or form.' According to this definition we may assume that the creator is the one that creates (makes) or has created; and to create is to give existence.

Nevertheless, the concept of creativity raises a number of controversial issues

¹ Encyclopaedia Britannica (on.line - <http://www.britannica.com/EBchecked/topic/142249/creativity>)

(Boden 1996). How may creativity be understood? Why do we consider something as being creative, and conversely something as not creative? Is the creative process the same in the arts and sciences, and is originality in these forms fundamentally different? Can creativity be measured? Can we compare two original ideas to show that one is more creative than other? On the assumption that creativity can be recognized, how can you explain how it happens?



According to Csikszentmihalyi (1996), creativity cannot be understood only by looking at the people who make it happen. Just as the dolphin jumping from the waters of the River Tagus passes unnoticed if there is nobody there to see it, ideas, and creativity fade unless there is an audience receptive to register them and implement them. Furthermore without guidance, a framework and an audiences there is no reliable way of deciding whether the expectations of a creative person are valid. Thus, according to this view, creativity results from the interaction of a system composed of three elements: a culture (which contains symbolic rules), a person (which brings new features within the symbolic field) and a panel of experts (which recognize and validate the innovation). For an idea to become creative, a product or a discovery to occur, these three elements (symbolic rules, subjective symbols, validation) are needed.

Thus, to understand creativity it is not enough to analyse the creative individual, their contribution, while necessary and important, is only one link in a chain, a phase in a process. Saying that Guglielmo Marconi invented the radio is a convenient simplification - the invention of Marconi's would have been inconceivable without the

knowledge a priori, without the intellectual and social network that stimulated his thoughts, and without the social mechanisms that recognized and released his innovations.

Creativity -H and creativity-P

To understand why these changes do not happen automatically, it is necessary to consider the background for creativity to occur. Change requires effort and traditions. For example, procedures need to be learned before being modified. A musician needs to learn a musical tradition - it's written guidelines on how the instruments are played - before thinking about a new composition.

Boden (1998) distinguishes two senses of creativity which she explains is not a special property confined to the elite, rather, it is a feature of human intelligence in general: creativity is based on capabilities within day-to-day life - such as association of ideas, memory, perception, analogical thinking - in a search for a space for structured and self representation. Secondly creativity involves not only the cognitive dimension - the generation of new ideas - but also motivation and emotion, and is closely linked to the cultural context and factors of personality.

The ability to produce innovations of the first type, is the psychological creativity, or creativity-P, and the second is historical creativity, or creativity-H. P-creativity is the most fundamental concept, of which H-creativity is a particular case.

Boden argues that since creativity is the investigation and transformation of conceptual spaces, the mechanism of creation must be a sort of automatic search, through and between, conceptual spaces. A generative system defines a certain range of possibilities. These structures are located in a conceptual space whose limits, contours, and pathways can be mapped, explored, and transformed in various ways (Boden 1995: 2-3).



What is this approach (Boden's model) embedding? Is being creative in a specific field to gather as much knowledge about the domain as possible? Is awareness, attention and motivation considered as the formal concepts of creativity? Is transformative creativity what we as artists are searching for, namely a means to transcend a conceptual space? How may this be articulated in a co-authored situation? Is collaborative creativity a practice of transformation because one is exposed to processes that seem absurd, aimless, or shocking?

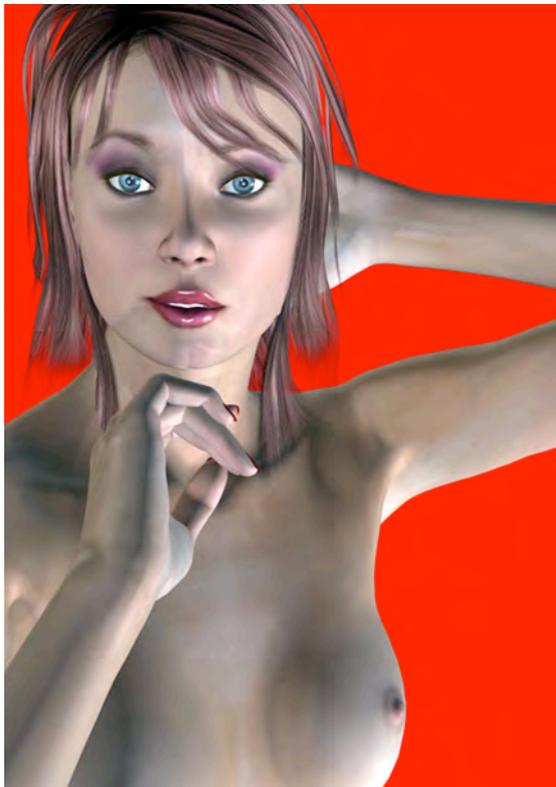
Where we as visual artists might feel reflected in Boden's (1991) approach is in her focus on the generation of creative ideas, not on validation. She emphasises the context of discovery, not evaluation. While admitting that the criterion of validation can be part of the creative process, his primary focus is on *how* the ideas come to exist in people's minds.

Gilles Deleuze and Félix Guattari (1987: 21) used the term 'rhizome' to describe theory and research that allows for multiple, non-hierarchical entry and exit points in data representation and interpretation. In *A Thousand Plateaus*, (ibid) they opposed an arborescent conception of knowledge, one which worked with dualist categories and binary choices. What we consider creative resonates with Gilles Deleuze's mediatory space between discursive and non-discursive functions:

The rhizome is an acentered, nonhierarchical, nonsignifying system without a General and without an organizing memory or central automation, defined solely by a circulation of states. (1987: 23).

For Deleuze and Guattari 'to map' means to form a relation between the discursive and the non-discursive and we titled this presentation *Mapping the Mind* to evoke the cartographic principle of the rhizome². Becoming (for us a constant negotiation) Deleuze, asserts 'has only middle' - the emphasis is on the process and not the object, and this underlies the mediatory quality of our production:

... the middle is not an average; it is fast motion, it is the absolute speed of movement. A becoming is neither one nor two; ... it is the in-between, the borderline of flight or descent running perpendicular to both (ibid: 293).



On being creative one is 'not consciously experiencing and passing through the line of flight; on the contrary something [is] passing through you' (Deleuze 1995: 141), and this experience is that of becoming other - via multiplicity, diversity and destruction of identity (ibid: 44). This happens through acknowledging borderlines, differences and repetitions.

² The rhizome is characterized by six principles – connectivity; heterogeneity; multiplicity; signifying rupture; cartography and decalomania – simultaneously interacting.

Three types of creativity

According to Boden, there are three main ways to generate creativity. Each of the three results in surprises, but only one, the third, can lead to 'shock' which accompanies an act, a really innovative idea or product. Therefore, the universally recognized creative individuals are more often associated with the third type, although all include some examples of creativity-H.

Combinational creativity

The first type involves new, and unlikely, combinations of familiar ideas. Examples include poetry and analogy, where two or more related ideas, in innovative ways, share a coherent conceptual structure.

Exploratory creativity

The second and third types are closely linked, and are more similar to each other than the first. The second type, exploratory creativity, involves the generation of new ideas for the holding of structured conceptual spaces. This often results in structures, or 'ideas' that are not only new, but unexpected and recognized as meeting the assumptions of the style of thought to which they relate.

Transformative creativity

The third type involves the transformation of one or more dimensions of space, so that new structures that could not have happened before can be generated.

The second and third types, or modes of creativity mingle. The distinction between a change of view and a transformation is to some extent a matter of trial, but the more well defined space, the clearer a distinction can be manifested.

As artists we inherit a style of thought in terms of our culture, but we work to find the limits and use the full potential of our field. Sometimes the known conceptual space is transformed, through removing or adding one or more dimension. These transformations enable the generation of ideas that were, with respect to that space, previously unattainable. The surprise that accompanies such ideas, previously

impossible, is much greater than the surprise caused by mere improbability, no matter how unexpected they might be. If the changes are extreme, the relationship between the old and new space will not be immediately apparent. In such cases, new structures will be unintelligible, and probably rejected.



In our opinion Boden's model of transformative creativity remains a little vague and does not acknowledge the importance of the selection and framing of contexts (departing from motivation and attention). This is possibly due to the difficulty of approaching the richness of human associative memory and the difficulty of identifying human values and expressing them in a computational form.

Conceptual spaces

With respect to the usual mental process in art (more than an act of combination), how can one 'impossible' idea be considered more surprising, more creative than others? How can creativity possibly happen? Boden (1990, 2004) introduces the notion of conceptual space:

Conceptual spaces are structured styles of thought. They are normally picked up from one's own culture or peer group, but are occasionally borrowed from other cultures. In either case, they are already there: they aren't originated by one individual mind. They include ways of writing prose or poetry; styles of sculpture, painting or music; theories in chemistry or biology; fashions in

couture or choreography, nouvelle cuisine and good old meat and two veg – in short, any disciplined way of thinking that is familiar to (and valued by) a certain social group. (2004: 4)

Conceptual space maintains a given domain and defines a set of possibilities. The organising dimensions of a conceptual space are the principles that unify and give structure to a particular field of thought. The boundaries, contours, trajectories and structure of a conceptual space can be mapped by their mental representations: moves in chess, molecular structures, and melodies of jazz, for example. These mental maps can be used, not necessarily consciously, to explore and change the spaces involved. Sometimes the conceptual space involves a repetitive process, moving from one point to another, eventually reaching an area where something should happen. This explanation is expected to clarify how repetition can lead to new ideas (difference). Thus, the operation of becoming is a kind of conceptual creativity. However the operation of a conceptual space is one thing, the processing is another: what exactly is a conceptual space?

Conceptual space can be described as mental maps, which are - like outlines of thought - thinking that explores the search space of solutions, as for example in a game of chess or during a jazz improvisation - activities which have certain rules known and well delineated (Boden 1995: 85). Thus, these mental maps are similar, metaphorically, to the Klondike maps of gold mines³, as Boden calls it - 'spaces of Klondike' (1995: 85). However there is no reliable rule that says to the person who searches for gold s/he will find, or indeed mine, the most productive site.

As visual artists and researchers we might be considered a rare category of people, a creative elite, and sometimes what we do is misunderstood and under valued. The challenge of art practice as research involves actions which, as Sullivan describes, 'both create and critique new knowledge and has the capacity to transform human understanding' (2005)

³ In 1896, on the banks of the Klondike River in Canada, the gold veins were discovered, which later would be targets of a 'gold rush'. This region is formed by the meeting between the Klondike and Yukon rivers, site of the first camp of miners from the Klondike mines, where you can find the most profitable veins of gold. (Perkins, 1999 [1994]: 128). Thus, as the land is exploited in the search for a shaft or clues leading to a gold mine, the map of the area of Klondike was designed. When a gold mine was found - like an untapped area of thought, this can lead the person to evaluate whether this particular mine has adequate gold, or whether it is necessary to look for another mine, bearing in mind that this could mean a long search in other valleys and hills for more productive mines (thought)



When considering art practice and collaborative research, creativity becomes a tool for change, a mediating process to a larger self-awareness. This path from chaos of the senses to experience, meaning and self-awareness is an opportunity for transformation.

In *Mapping the Mind*, we propose a cartographic perspective on arts practice as research, one that enables a re-conceptualization of the creative process with all its various characteristics that includes its paradoxes, the unconscious, the materials, the experience and the collective socio-cultural frame.

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