

## **Mental Space meets Psychology – a new Paradigm and Approach to Psychotherapy**

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### **Abstract**

**Introduction:** *This paper outlines the basic concepts of mental space representations, its primary concepts and the connection to psychology and psychotherapy. Also included are the descriptions of three mental space based psychotherapies and their applications. A comprehensive list of references containing case-studies and researches is also provided for the three mental space based psychotherapies, for further study and research.*

**Objectives:** *This paper aims at revealing the connection between the well-researched concepts of mental space and visual-spatial representations and their use and applicability in the psychotherapy and overall psychology field.*

**Methods:** *Literature review.*

**Results:** *The consideration of the importance of mental representations and their influence on the clients' social world, and emotional problems and the further encouragement of developing tools and approaches that can work directly with this abstract constructs.*

**Conclusions:** *This paper anticipates a new paradigm to emerge and to further develop, that of Mental Space Psychology and the authors also aim at stimulating interest from other specialists in the field of experiential psychotherapy for this new approach and its vast possibilities.*

**Keywords:** *Mental Spaces, Mental Representations, Psychotherapy, Spatial Cognition, Social Panorama*

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## **I. Introduction**

From the moment of conception to the end of their lives, people are surrounded by physical space and by the spatial cognition process, as noted by Tversky (2005). Because people need to orient themselves in the surrounding space, the human mind acts as a sort of simulator by creating images with which people can operate inside this reality.

Inside this mental map, also called “mental space” (Fauconnier, 1997), we can find representations of the surrounding physical space, which contains every object or living being that someone can interact with. Also, this mental map contains the relevant elements for someone and the spatial relationships between them, indicating their directly created meaning for the person (Tversky, 2000, 2005). However, these mental maps are sometimes incomplete, usually missing relevant information due to simplifying or distorting because of the excess of stimuli that acts on the nervous system.

Also, this unconsciously created mental map has a tridimensional structure, because, from all we know, space and every object and living being also have a tridimensional structure and the first tridimensional object of which someone becomes aware is the human body, most probably due to the fact that the nervous system also has a similar tridimensional structure. A practical example is when someone closes his eyes and tries to move around and can still guide on his own, because he unconsciously creates a mental representation of the physical surrounding environment.

Mental Space Psychology, through the use of spatial based psychotherapies (Derks, Manea, 2016), aims at consciously working with the client’s mental representations of both, his surrounding environment and of the problems that he is facing in order to better facilitate the change process.

## **II. The Creation of the “Self” concept and the awareness of the Outside World**

Jean Piaget (1965) noted that when inside the womb, the fetus must orient himself, even without knowing the difference between him and the rest of the world. When in the womb, the fetus comes into contact with this external object and begins developing his sense of self. The fetus starts learning that some aspects of his experience are his own, having control over them, and others are “outside” and cannot be controlled.

When people speak words such as “I” or “Myself” they reveal a form of self-awareness, as when

they hear their own name spoken by somebody else (Fauconnier, 1997). Also, as people have mental representation of other people and events, they also have mental representations of themselves, and these perspectives about their self-image can influence their own behavior. G. Lakoff and M. Johnson (1999) suggested that when people have a certain type of bodily experience, they will create primary operating concepts about them and thus will construct metaphors corresponding to these characteristics.

Also, in social interactions, people need to differentiate between an object and a living being and a person, creating the personification cognitive process in an unconscious manner. This process consists of a complex set of images and feelings that offers information about who really is a person and who or what is not a person. These personifications will be applied both to themselves, in order to support the feeling of self, but will also be applied to social roles, in order to be aware of social status and relationships.

## **III. The role of Mental Spaces in creating Meaning**

An individual starts learning from a young age the difference between the meaning of words such as “here vs. there” or “left vs. right”. These general and universal experiences influence the creation of an operating frame. From these basic concepts, people build their own inner world of thoughts (Lakoff, Johnson, 1999). These two authors consider that this process leads to the awareness that the “self” is “here” and that the outside world is “there”, thus the location becomes the foundation of the thought process. Also, Steven Pinker (1997) considers that location in space is one of the two fundamental metaphors of language and that it is central in the human thought process, because many concepts about places and movement sit at the foundation of literary or figurative sense of words and of their resulting constructions such as phrases and sentences.

Gilles Fauconnier (1997) concluded that all subjective experience is spatial, describing the fact that the human language causes the formation of images projected in the imaginary surrounding space of an individual. The meaning is created inside these mental spaces because people live in a tridimensional world, in which they see, hear, feel, hear, taste and smell every spoken word and this meaning takes the form of mental sensory tridimensional constructs. Also, besides the language, there also exists a field of sensorial experiences projected in space of which people are not aware of. Thus, the self awareness process becoming

unconsciously is perceived on multiple levels such as visual, auditory, kinesthetic, olfactory and gustatory. We can give a short example of the semantics of mental space (Tversky, 2000), a concept described as “big” is considered to be better, stronger, healthier, because it can beat gravity, and something described as “small” is considered to be the exact opposite. Also, attraction is represented as physical closeness, and the physical remoteness is considered to be the exact opposite of it.

#### **IV. Mental Spaces and the use of Visual-Spatial Representations as a mean of Communication**

The oldest evidences of human communication can be found in prehistoric caves, in the form of paintings on their walls, dating around 40.000 years ago, as B. Tversky (2000) notes. Another obvious example is that in times when human language was not very evolved, people would use non-verbal gestures or drawings in order to communicate with other human beings. Also, visual artists or architects use drawings to explore and communicate their ideas. Also, when people cannot sketch their ideas and thoughts on an idea they will use non-verbal gestures to facilitate communication and their learning process by mentally and non-verbally sketching their surrounding environment (Jamalian, Giardino and Tversky, 2013).

Another important aspect of mental spaces is visual-spatial representations, which represent cognitive instruments specific only to human beings. These instruments enlarge the memory process and the processing of information, using space to represent the concrete and the metaphoric experience (Tversky, 2011). This visual-spatial thought is not merely a simple visual internal experience, but a construct formed by the experiences of the human being interacting with the surrounding environment. We can also add the conclusions of G. Lakoff and M. Johnson (1999), that most thoughts appear in an unconscious way, the abstract concepts are of a metaphorical type and the foundations of thought are developed directly from the bodily experiences resulted from the interaction with the surrounding environment. The thoughts start from the body and they are translated into metaphors that are used and expressed in an almost unconscious way.

In order to emphasize even more the fact that non-verbal gestures express in a relevant way what people perceive in their mental space, a number of researches revealed that they usually make connections with certain words that indicate locations in space, such

as “front”, “forward”, “towards”, “over”, etc. R. A. Nunez and E. Sweetser (2006) concluded that the structure of someone’s mental space is directly represented by their spontaneous non-verbal gestures, and they are the most relevant sources for discovering the locations of these concepts inside their mental space.

#### **V. Pioneers regarding the use of Mental Space in Psychology and in other Social Sciences**

In regard to those stated above, in our opinion, but also the one stated by Derks and Manea (2016), we can take in consideration that we are witnessing an emerging paradigm, entitled the “Psychology of Mental Space”. In the last 130 years, many psychologists or social scientists contributed indirectly to this field. They did not work with the Mental Spaces theory academically established by Gilles Fauconnier (1997), mostly for obvious chronological reasons, nevertheless they vastly contributed through their work and research to this new emerging field. Below, we will take into account several specialists, researchers and authors who we consider made a great contribution to this field.

William James (1890) studied the individual’s representation of the past as a line displayed in space, in which the events that happened more recently are perceived as being “close” and the events that happened a longer time ago are perceived as being rather “far away”. He used for the first time the term “stream of consciousness” in which the thoughts happen at a time, and at a very high pace, sometimes too fast for proper insight and analysis.

Edward T. Hall (1966) researched the behavior of people in various social situations when organizing their own personal space. He coined the term “Proxemics” to describe the way people represent their own social world, the way they use their own personal space and the impact it has on interpersonal communication.

Jacob Levy Moreno (1951), in developing his psychodrama model in psychotherapy, used spatial based interventions by working with clients in a group setting and encouraging them to express their own inner emotional conflicts in an organized scenario. Most importantly for the topic of this study, he also developed another tool, named the “sociogram”, in which a person could draw himself and the relationships with other people on a sheet of paper. With the aid of this tool he could describe the influence of interpersonal and face to face contact has in connecting the members of a certain group. This approach is used today for analyzing

communication and social networks, social status and the overall group dynamics.

Julian Jaynes (1976), in his study of the human consciousness, researched for the first time the idea of working with spatial dimensions, using the principle that every thought and emotion that people are aware of have a specific location in their mind. In order to demonstrate this, he used spatial-based questions with his participants, such as: “Where?, In front?, Behind?, Close?, Above?, Inside?, etc.”.

Virginia Satir (1972) also used the space principle in her systemic family psychotherapy approach, by using the sculpting technique as a psycho-diagnosis tool. In using this technique, she gave instructions to every family member to form a living sculpture of their own family by arranging the other members in certain spots inside the room, in certain body postures and with certain facial expressions. This process would be repeated for every family member and at the end of the therapeutic process the family sculpture was changed and improved until all family members were satisfied with their position “in space”. Virginia Satir found that by interchanging the positions of the family members in the overall family sculpture the relational problems between the members would be solved more easily.

Richard Bandler (1985) first introduced the concept of sub-modalities (the characteristics of mental representations) in therapeutic work, which was further developed by Steve Andreas and Connirae Andreas (1989). These authors noticed that, in order to better express their problems, their clients used non-verbal cues to describe the images in their mind. Further, they analyzed the qualities of these images, such as their location, their size and their movements described by their clients, and realized that they influenced their emotional states, some by being too close and causing negative ones, some by being further away and causing positive ones, etc. After these repeated events, they developed a set of techniques that can help these image qualities to be modified with the help of the therapist, in order to facilitate the change process.

Tad James and Wyatt Woodsmall (1988), in developing their “Timeline Therapy” approach, observed that people tend to represent their overall experience of life as a line, containing their past and present experiences and their representations of their future, giving another hint that the human mind creates a chronological and sequential order for one’s subjective experience. Another finding was that most people visualize their timeline as a straight line, but some as a bent one or curved one, or in various other

shapes. The advantages of this technique are that the client can travel back and forth on their timeline with the help of the therapist, either in an associated or in a disassociated state, so that he won’t re-experience a traumatic event at a high emotional intensity, but more like observing it from a distance, giving the opportunity to reflect and find new resources for it. For example, the client can travel associated and experience a positive event that can offer resources for the disassociated re-experienced traumatic event.

New-Zeeland psychotherapist David Grove (1989), in his work with war veterans, discovered that the space metaphors is fundamental in organizing the interior world and that people can dissociate themselves both outside or inside their body. His work, now commonly known as “Clean Language”, is based on a set of non-directive questions that help the client describe his own personal metaphor of his problem or feeling. By doing this, the client’s space becomes psychoactive, and starts to be represented around the client, causing reactions such as new emotions or new thoughts about this new representation of his space. These new emotions and new thoughts generated by the client are facilitated by the therapist in order to be integrated in the client’s process of discovering new ideas for overcoming his problems.

Bert Hellinger (1998) introduced his own systemic family therapeutic approach, commonly known as “Family Constellations”. In this approach a client has his own family members played out by the other participants in the group, participants with whom he has no real interpersonal or family connections. In this process the client is assisted by the therapist to give instructions to the role-playing participants about the behaviors of his family members, and one of the most important instructions is about their specific locations inside the room in order to get a more relevant psycho-diagnosis.

## **VI. Mental Space Psychology-based therapeutic approaches**

In the last 30 years several mental space therapeutic interventions emerged and they are gathering more and more following around the world. Most of them started as simple observations in their creator’s therapeutic work, and by discovering the mental space researches conducted by leading scientists such as Gilles Fauconnier and Barbara Tversky, they were encouraged to continue their development of these new approaches, and also to generate their own researches, which will be listed below.

### **The Social Panorama**

The Social Panorama is a therapeutic and a personal optimization approach developed by Dutch psychologist Lucas Derks. The author theorized that relationship equals location (Derks, 2005). More specific, the location where people place the mental representation of a person or their “personification” inside their mental space influences the emotional quality of their relationship with that person. By creating these personifications of other people with whom the individual interacts, people unconsciously create a mental model of their social world.

While interacting with other individuals, people represent this mental image in a very abstract but also permanent way, using an image of that person. The image of that person, her position in the mental space, her perceived height compared to the individual’s influences the quality of their relationship. When a someone has feelings of friendship or love towards another, it unconsciously places that person’s representation in a close place inside his/her mental space, and when the relationship is emotionally neutral, he/she puts it at a greater distance (Derks, Oetsch, Walter, 2016).

Also, in this process, the self image from the mental space is usually made conscious in the problematic situations that person experiences, by comparing her own image with the perceived images of other ones. More so, when a person has a feeling of security in a social context, she represents her own self image as being big, and when she feels insecure, usually she represents a self image smaller compared to the mental representations of other people whom she interacts with (Derks, 2011).

The Social Panorama Model has most significant results in optimizing the interpersonal relationships of the client, and usually in situations that date back to the his childhood family problems (Derks, 1997, 1998). Basically, the therapist encourages the client to place on the floor the location of all the relevant people’s representations in the social context. Afterwards, the client steps at a time in each person’s location and, if needed, modifies the position and size of the mental representation of the people towards feeling negative emotions, until the new “social panorama” is perceived as being more adequate for the present moment, situation and social context.

### **Clean Language and Clean Space**

The “Clean Language” approach, as the names hints, is based upon using as much non-directive and non-intrusive language as possible in interacting

with the client. This approach was developed in the 80’s by New Zealand psychotherapist David Grove by working with war veterans. Grove noticed that his clients were using metaphors to describe their negative emotions and their traumatizing experiences and also that these metaphors, once analyzed, were becoming very specific to that person, because they were adding very personal details and meanings. Also, he noticed that the metaphors also had a logical structure to them, retaining their coherence and consistency throughout time, as though those people were those metaphors and vice-versa (Grove, Panzer, 1989).

The Clean Language approach is structured as a set of questions that facilitates the exploration and understanding the meaning of the client’s metaphors - afterwards the therapist would just help him by providing enough motivation to activate the change process. Also, Grove considered that it’s very important for the therapist not to interfere with his own assumptions, metaphors and indications when working with a client (Sullivan, Reese, 2008).

Just as in the Social Panorama (Derks, 2005), the client’s mental space is a central aspect of the Clean Language approach, and, based even more on this aspect, another secondary approach emerged, called “Clean Space”, which focuses even more on the client’s space and personal perspective (Lawley, Tompkins, 2000, 2003).

J. Lawley and P. Tompkins (2000) noted that space is the center of human perception, everything that people imagine or feel takes place in a certain place inside this space, thus the spatial relationships are crucial in organizing the individual’s inner world and in the formation of meaning. Regarding Clean Space, the client is encouraged by the therapist to express his inner world through symbols and physical locations, and assigning specific locations to negative feelings or problems experienced in the present. Thereby, as the client becomes conscious of his inner world and by the feedback given by the comparison of his inner world and the expressed one, new ideas, thoughts and emotions begin to emerge as a reaction to these latent inner symbols. As a result, relationships begin to change in a spontaneous way and clients can find the best possible relationship in regard to their problem and the resources needed in the change process. This newly surfaced space will facilitate the therapists work because the client interacts to a greater degree with the symbols of his own space, the interior world becoming a physical one, thus exploring his own inner world in a more practical and realistic one (Lawley, Way, 2017).

### **Metaphors of Movement**

British therapist Andrew T. Austin (2016) also developed a mental space based therapeutic approach, entitled “Metaphors of Movement”. Austin (2007) started working therapeutic sessions with patients in the neurology departments of hospitals and with other clients suffering from chronic depression and alcoholism, discovering that their metaphors were usually communicated outside their conscious understanding and awareness. Austin (2016) noted that this kind of communication would reveal many more layers of information and meaning that, although expressed simultaneously, was also very well organized. Thus, he reached the conclusion that by extracting specific but also small amounts of verbal information, the essential data for the client’s problem could be revealed.

In his structured interview regarding the exploration of the client’s metaphor he uses very specific spatial questions such as: “What is in your front?”, “What is behind your back?”, “What is right?”, “What is left?”, “What is above?” and “What are you standing on?”. Also, he pays very much attention to other spatial aspects of the client’s metaphor such as the motion and the absence of motion in their current situation, the direction of movement, the distance between the client and other relevant aspects and the mode of overcoming obstacles, such as going through, going over, going around and going down. By using these types of questions he can achieve a very thorough diagnosis in revealing the client’s current state and facilitates the change for the desired state.

### **VII. Conclusions and Future Directions**

Taking into account the popularity of already well-established psychotherapy approaches who use involuntarily mental space aspects such as the Family Constellations, the Psychodrama and the Systemic Family therapy, we can expect that all the above stated mental space based therapeutic approaches (Clean Space, the Social Panorama and the Metaphors of Movement) will also develop into more popular and, most importantly, will generate more case-studies and researches. We can see the perseverant activity of two associations in this field, the International Laboratory for Mental Space Research (ILMSR) and the Society for Mental Space Psychology (SOMSP). Another interesting research based on the mental space theory is the pilot investigation regarding the treatment of mild depression (Beenhakker, Manea, 2017).

In conclusion, we consider that these newly emerged psychotherapies will generate relevant researches for this new field, that will contribute to a better understanding of the impact of mental representation on mental health issues and, most importantly, will improve people’s quality of life.

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