

## Body grammar and its meanings: an ethnography of the clinical context on language, and motor aphasia in a hospital in Mexico City

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**Abstract** *This text is the result of an ethnographic research conducted in the neurological rehabilitation service at the Center for Mental and Neurological Health Care in Mexico City. This work focuses its problematic on elucidating how the body language of people with motor aphasia is reconstructed and what senses they generate. The analysis of the collected information led us to identify that language rehabilitation reconstructs a body grammar and uses the ability to narrate in order to restore language and communication. In this sense, we follow Goffman's notion of strip of activity, Csordas' embodiment and Bakhtin's polyphony, in order to understand the discursive construction of language that is introjected into the body and reproduced during clinical interaction. The employed methodology was an ethnography of the clinical context using narratives as a suitable tool to describe the meaning constructed between therapists and people affected with motor aphasia.*

**Key words** *Rehabilitation, Language, Motor aphasia, Ethnography*

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## Introduction

The present research work is the product of the research work entitled: Interpretative analysis of narratives in the clinical context of mental health. In which an ethnography of the clinical context was conducted in the neurological rehabilitation service of the Center for Mental and Neurological Health Care (CASMN), one of the most important neurological care and research centers in Mexico. The intention of the research was to focus on clinical interactions as processes that build health care policies, so a qualitative approach was carried out in different clinical areas: a) Outpatient; b) Physical rehabilitation; c) Palliative care and d) Medical Residency. Our interest in delving into neurological diseases and linking them to mental health implied conceptualizing biomedical knowledge as part of a discourse that, at a global level, tends to regulate and provide meaning to the care of neurological diseases.

The clinical area we decided to investigate was the neurological rehabilitation service, which consists of three areas: physical rehabilitation, language rehabilitation and occupational therapy. It is important to point out that we parted from the conceptualization of strips of activity, interpreting this concept as the context where interactions and experiences are structured, providing sense to people, in order to describe the relationships that build the clinical act<sup>1,2</sup>. During the fieldwork, our attention was drawn to the way in which people with motor aphasia were treated in language rehabilitation, as they had to learn to rename and redefine objects.

The contact with the people who attended treatment allowed us to deepen our understanding of the notion of *body grammar*, which we defined as a series of language norms that fulfill the function of expression and production of the meaning of experience. These norms define the use of words, events and objects that are shaped by culture and social relations, thus constructing identities that influence the way of perceiving the world<sup>3-5</sup>. It is important to emphasize that we define language as the result of the need to express and objectify oneself. This notion considers the communicative function of people, since communication with others is essential in the construction and use of discourse<sup>2</sup>.

During physical rehabilitation therapy, people with motor aphasia did not only establish new synaptic connections, but also redefined their relationships and gave new meaning to their lives. These changes affected the social, cognitive

and family networks of those affected and improved their bodily alterations. The way in which language rehabilitation builds new communicative skills in people is through the expressive capacity, which remains unharmed in memory, in their desires, expectations and the emotions they wanted to convey and which we understood as narrative capacity.

The main cause of brain involvement in motor aphasia is due to cerebrovascular accidents, tumors and craniocerebral trauma<sup>6</sup>. In the rehabilitation service of this institution, most of the affected population are people with cerebrovascular lesions.

Hence, the research problem answers the following question: How is body language constructed in people with motor aphasia during clinical interaction and what senses does it generate? Our research objectives considered two points to be developed: The first comprises the description and analysis of body language in the clinical interactions of people with motor aphasia and the second involves the description and analysis of the meaning produced in the narratives of people with motor aphasia and therapists working in clinical interactions. Our hypothesis considered that there is a reconstruction of body grammar in people affected with motor aphasia and that this is influenced by the family, the rehabilitators and the type of care that was provided to them.

The question and the objectives represented a theoretical-methodological challenge, so we followed the notion of *strips of activity*<sup>1</sup> to determine how the learning of a new body language was organized through interactions during the attention process of motor aphasia. Thus, during speech therapies, we noticed that gestures and movements were tools of dialogic communication. Consequently, we understood clinical interactions as rituals that allowed people to nominate objects and give meaning to their actions; on the other hand, we considered the relevance of integrating the concept of *embodiment*<sup>7</sup> into the study, in order to analyze the configuration of bodily communication pathways in which performative narratives were key to understand how several communicative skills assigned from language rehabilitation were organized and “incorporated”.

Finally, Bakhtin's theory of heteroglossia<sup>8</sup> was a useful theoretical concept through which we understood that the different voices that narrate an event express a discursive order that influences the construction of a body language. In this regard, we used Fassin's concept of power<sup>9</sup>, which

stresses the importance of describing the mechanisms through which power is exercised, since in the health area the biomedical discourse attempts to govern the life and illness of the subjects who attend the institutions and to this action an order of public policy is attributed.

In order to construct a proposal that articulates the social interactions and the discursive and political order that were expressed in the language rehabilitation process, we decided to perform an ethnography of the clinical context that allowed us to distinguish the nuances and classifications of the institutional culture. Thus, this work comprises seven sections to be considered: a) methodology; b) the reflection between bodies; c) hodotopy, language and narrative capacity; d) the world of objects; e) the discourse of body grammar and f) conclusions.

## Methodology

In this research it was relevant to consider that what we know as *clinic* is so diverse that it must be investigated under a strategy that reveals the meaning of interactions in particular situations. Consequently, we understand as *clinic* the structuring of seeing, perceiving and speaking a system of relationships that weaves a language to describe and modify the course of the disease<sup>10,11</sup>, so in this work we focus on the relationships that are expressed during the interaction between the rehabilitator and the patient, considering that there are logics that guide the experience of the subjects<sup>12</sup>.

When we enter the small language rehabilitation office, we record how cognition and its symbols are encoded into signs, which allow patients to make sense of the rehabilitation process. These actions are expressed and reconfigured through face-to-face relationships. Thus, *interactive-negotiated* observation with the therapist, the patient and the institution (ethics committee) were vital to describe these micro-processes where power, hierarchy, dialogical relations, interactivity between observers and discourse are articulated in the therapeutic act<sup>13,14</sup>.

The ethnography of the clinical context (what was observed and what was said) was the method that guided our research prenotions, especially when we noticed that the inclusion criteria for language rehabilitation were very different from the rest of the CASMN, since here they establish that "awareness of error and illness" were the most important criteria for entering therapy.

We attended three sessions of this therapy to find out how this service worked. We had previously developed an observation guide where we identified the strips of activities in which we should go deeper. The observation of the interactions during the consultations allowed us to see that body language was a dimension that they worked on in depth and that we had not considered.

During the fieldwork, which lasted three months, we conducted in-depth interviews with two people (psychologist Marta and Mr. Rodrigo) with informed consent, in order to co-produce narratives that recount the experiences and meanings recorded during the first stage of the ethnography: the observation of interactions.

Field work and continuous reflections built a theoretical-methodological framework that allowed us to interpret the narratives and to focus on language as a relevant category to analyze<sup>15</sup>.

### The reflection between bodies

Before continuing, it is necessary provide the context of CASMN. This is a public institution whose functions are to provide specialized neurological care, as well as to promote research and training of health professionals. Its structure has a hierarchical organization around the care of neurological diseases.

The Rehabilitation Unit has a marginal recognition within the organizational structure, and this is evident during the care process of neurological diseases, since the biomedical weight on the contributions of the rehabilitators is notorious. This unit has three spatial blocks with the following three services: 1) neurological rehabilitation, 2) speech rehabilitation and 3) occupational therapy.

In the speech rehabilitation service, there are only three therapists who attend patients with aphasia, dysarthria and memory problems, since therapy is focused on these three major cognitive areas. Most of these patients have cerebral vascular events and are provided with an hour of therapy that is defined according to the type of neurological condition.

In the clinic sessions we asked for the informed consent from Rodrigo, who is a patient, in order to follow him during his sessions and conduct a series of in-depth interviews. Rodrigo is a robust, dark skin man, diagnosed with motor aphasia and left hemiplegia. When we first saw him, he was walking down the hallway dragging his leg, he had a complete facial deviation. Rodri-

go was holding his left arm with his right hand, as this arm seemed to be lifeless, he was also completely spastic and presenting repeated muscular contractions. When he began to speak, his words were not very fluent and sometimes he could not connect whole sentences, but he acted with his body to communicate.

During the rehabilitation sessions we could see a great rapport between the therapist and the patient, as she had built a complete affective relationship around the clinic. When they interacted, the therapist had the purpose of bringing Rodrigo's everyday life to the clinical practice and she asked him how he was doing in his new phase as a soccer coach, since he was previously a soccer player and liked to coach a team of children as a hobby. He began to narrate with his body what was happening with the children, since many of them were not enthusiastic about playing and he, as a coach, had to motivate them.

Rodrigo was a skillful soccer player who missed valuable opportunities, as he made his debut with the Cruz Azul sports club, but his youth and his party spirit led him to consume alcohol and drugs. As time went by, he was no longer seen as a promising sports player and his life led him to another destiny, such as being a mechanic and a bus driver. Eight years ago, he suffered a cerebral hemorrhage that caused a left hemiplegia and motor aphasia.

Afterwards, they performed word naming exercises with words that Rodrigo had to read, so he constantly repeated the words that his therapist showed him on a sheet of paper. Marta worked with long sentences and asked him if he could articulate a sentence they reviewed in their last session. Rodrigo tried and said "I like...", directing his words to the psychologist Marta who shows him a small piece of paper that says "peanut", afterwards, Rodrigo says "I like bread with... Bread with peanut butter".

Marta asked him about his diary, and increasing the volume of his voice, acting and gesturing the question, he answers: "No, no, no, no, no, no, no, no!", "You didn't bring it", Marta answered. After this acted dialogue, the psychologist asked Rodrigo to read a sentence and then explain the meaning. Then, they began to play with different words "hen...house, hen...house..., henhouse" said Rodrigo. "What is that?" asked Marta. To which Rodrigo answered "My grandmother asked me for 4 hours and then please put them in". Marta responded "Your grandmother asked you to put the chickens in the henhouse?", "Yes, that's it" Rodrigo answered.

We soon realized that Rodrigo was having trouble spelling words, as one sentence that included the word "head" (*cabeza* in Spanish) Rodrigo mistook it for "wire" (*cable* in Spanish). He later realized his mistake and then said the word correctly. The therapy involved a deep connection with the world of objects, with memory, with phonetics and recognizing the sounds coming from his body, the body movements he exercised to name them and to recognize them symbolically.

Marta continued with the oral exercises so that he would name the words and emphasized the *b*'s and *l*'s, especially in the way the lips were posed. She would talk to Rodrigo overexpressing her gestures, so that Rodrigo would observe her expressions, pay attention to the muscular movements of her face and the sounds she made so that he would repeat them.

The therapy seemed a mirage of the neurological attention provided in the rest of the CSMN, because in here a different discipline and a deep anamnesis of human consciousness was revealed to us, along with the relationship that the body plays in the construction of cognition, memory and communication. Each time Marta proposed a new therapeutic exercise, it represented a challenge for Rodrigo, since the exercises developed evaluated three specific cognitive areas: fluency, naming and comprehension<sup>6</sup>.

The institution has tried to regulate communication through the biomedical lexicon; however, Marta and Rodrigo have managed to construct a grammar of their own, that is, a new body language norm that valued time, memory, body movements and emotions. It is also language that negotiates with biomedical normativity because it has allowed them to act within their facilities<sup>6</sup>.

### **Hodotopy, language and narrative capacity**

Language has been studied by several disciplines. At the beginning of the 20th century, reflections that postulated language as the core of being began to emerge, as defined by Heidegger<sup>16</sup>, or languages as forms of life, a notion used by Wittgenstein<sup>5</sup>. These definitions were taken up by the social sciences and provided a deep basis for Geertz's interpretative anthropology<sup>2</sup>. The main contribution to the study of language was to define it in different areas of study that understand it as an object of action, as an interaction of events and as an interpretative code<sup>4</sup>.

Our position is that language is a series of discursive events that are related to the socio-

cultural context, thus integrating the notion of the use of language as gave by Bakhtin<sup>4,8</sup> that relates structure and interaction, in a continuous loop of construction of meanings, experiences and sensations. These contributions allow us to see language as a structure, interaction and interpretation that builds an interrelation between nature, culture and society.

When we talk about language it is necessary to distinguish oral language of sign language or acted language which are performed through the body in order to nominate an object. Language rehabilitation therapy connects different parts of the body to re-signify it. It is necessary to consider that behind the act of naming there is a whole background that involves resorting to memory and meanings, hence the connection is not only in the biological territory of the body, but in the family, in interpersonal relationships, in memory, in history and in the world of objects.

The construction of new synaptic networks at brain level has been called hodotopy, a term that we have retrieved from neurosurgery to show that there is a reconstruction of diverse neural networks that allow brain regeneration and new communication. Consequently, there may be networks surrounding the lesion or even connecting the two cerebral hemispheres<sup>17</sup>. What we saw in speech therapy was how new connections are driven to reformulate the life of those affected using memory, expressive capacity, narrative and thus build a new body condition.

The idea of extending the brain to language and social relations developed because we saw that the therapy extended its action to the family circle, as everyone modified their expressiveness to communicate.

Research done by language rehabilitators has documented the capacity of brain reorganization, context analysis and synthesis of the environment, which implies an alteration in the logical-grammatical construction; that is, in the totality of the psychic, affective and volitional spheres that construct the meaning of objects. These investigations focused their descriptions on the changes developed by people with aphasia when performing complex tests involving the act of narrating and communicating<sup>18-20</sup>. Within the social sciences, aphasia is a scarcely investigated topic, but the research that has been done is focused their analysis on communication, the family and the manner of relating to others<sup>21</sup>.

Our interest was to recognize the capacity of people to construct a language to express their expectations, desires and concerns. Thus, we con-

sidered that the notion of hodotopy would help us to recognize these connections and that the symbolic world was present in the construction of this new bodily order. Likewise, we thought it prudent to consider the category of narrative capacity, which all subjects have, which is exercised, above all, when people face a chronicity and try to make sense of their existence in the world, therefore people resort to narratives to communicate their experiences which often lead to try to resolve the contradictions between their ideal and the reality they live. The narrative capacity is a perspective that places the subject in front of the collective, as it seems that there are communicative connections that constitute social links that involve memory, judgment, expectations and emotions that build a part of the perception of the world<sup>22,23</sup>.

This finding was an anchor point to determine that the body is the existential ground of culture and that, thanks to it, different realities that are built in the everyday environment are articulated<sup>7,24</sup>. Therefore, we decided to look at Rodrigo's life in order to describe the communicative networks he built through the rehabilitation of language.

While observing the clinical interaction, we noticed that the communication pathways were amplified towards drawn language, acted or written language relying on the ability to express oneself. Consequently, speech therapy builds new expressive and narrative connections that communicate a desire, a feeling or an image, as expressed by Marta herself in the following story:

*The purpose is for the patient to express what he/she wants, something that no one can know except for the patient himself. And the act of generating a movement in my lips, in my tongue to express my thoughts, that's something that nobody can do for me, it must come from my desire to communicate and to organize my movements.*

This service generates therapeutic strategies that are completely personalized, as they delved into cognitive dimensions to focus the clinical work with learning. Thus, therapists offered treatments to those affected to incarnate again the world of objects, since it is through the rehabilitation that the connections to communicate with society are established for Rodrigo. In this space, he learns a "situational language", retakes his daily context, and recognizes spaces and objects.

The naming of objects poses a different challenge in people like Rodrigo. In the face of the loss of cognitive organization, rehabilitation offers a

projection of language towards one's own experience, that is, towards a situated language, or the expression of performative narratives as defined by Mattingly<sup>25</sup>, as these narratives demonstrated a ritualization of the rehabilitation and a projection of experience to achieve the rehabilitation of communication.

During clinical interactions we observed that the essence of objects was extended through language, as they endowed words and things with meaning. Words as simple as "henhouse" can be an example of a mobilization of narrative elements from memory, judgment and values. A connection was established with the experience that recalled the most elementary relations of life. Thus, the word is the event of experience and of narrated temporality<sup>4,8</sup>.

### The world of objects

The impact of the attention was a turning point in Rodrigo's physical trajectory, as he stopped expressing himself, stopped moving half of his body, so he was treated in the emergency department of CASMN. On the way to the hospital, he remembered how they put him in a car to take him to the hospital, the dialogues between his relatives and the enormous headache. At that moment he thought about his life, his children and was afraid that he would not make it, as expressed in the following narrative:

Rodrigo: *When I was painting, the thinner... then I saw that the gun fell and exploded.... my cousin asked me if I was okay... Hang in there brother... and my mouth [he makes a grimace to the side; his face had an expression of concern and sadness].*

Rodrigo's mother: *We had taken our granddaughter with us, and his wife said: "let's go to a pharmacy (over expressing her gestures and increasing the volume of her voice). But my granddaughter said: "No, this is serious, we don't know what he has". "Well, then let's go to Gea González Hospital", said his wife. "No! We should take him to the Neurology Hospital", and then they took him there in a cab, just as if it was planned, a friend of his arrived, asked us what happened and drove him there himself.*

Over the course of a year, Rodrigo underwent surgery three times to drain a hemorrhage, and finally, a rebleed, to place two skull prostheses. When language rehabilitation began, they addressed the emotional and social construction around the disease, the recovery time to be rehabilitated and the healing of the injury. All these

elements of his body trajectory were contemplated to begin to relate to the world of objects, as it was evident that he had a condition in the area of language.

Rodrigo resorted to the exaltation of his emotions in an attempt to narrate, this was noticeable when conducting the interviews and it was also observed that there were emotional connections as he angrily recalled the poor care at another rehabilitation center in Mexico City. There were narratives of guilt when acknowledging that he had consumed cocaine and alcohol, narratives of sadness about his bodily condition, and narratives of fear when he suffered seizures.

The real challenge of clinical rehabilitation in this type of patients is to restore their world of objects and experiences, which is based on the construction of memory where social action takes place. It is important to emphasize that the world of objects constitutes everyday life and gives meaning to the relationships we have with spaces, discourses, the imaginary and our bodily experiences.

The organization of the corporal territory connects the body with objects, our customs generate the meaning to make sense of the world, so we give meanings to emotions and identity to all kinds of materials such as clothes, glasses or a workshop tool that falls from our hand as did the painting gun that fell from Rodrigo's hand just when he had the cerebrovascular accident. The connection we have with objects is so deep that our culture is based on them because they formalize our daily rituals, and a part of the collective memory resides in them<sup>3</sup>.

Objects become important because we tend to humanize them, to give them meaning and to idealize them. This notion described by Bakhtin<sup>3</sup> delves into the creation of meaning in the relationship between subject and object, as a process of constructing affects that transforms people. Accordingly, it endorses the existence of an inner life that is shaped by their history, discourses, norms and social relations. These elements give meaning to the polyphonic world where the voice represents the internal and external action that shapes us, allows us to express what we feel, think, say, or do<sup>26</sup>.

The objectual world has norms and meanings that must be recognized in order to be re-ritualized. Communication is a language that codifies the sociocultural context and articulates the objects according to cultural norms and those are incorporated in an objectual form modifying our perception and our proprioception.

### The discourse of body grammar

The beginning of Rodrigo's language rehabilitation had some inconveniences, as he had serious difficulties in structuring words, he did not understand what was being said to him and felt sad when he did not feel understood. Marta mentioned that he had stereotypical or repetitive words that he used to communicate, but that little by little the clinical interaction was expanding his cognitive actions to improve his expressiveness. Also, Rodrigo received two years of physical rehabilitation and occupational therapy, which enhanced his communication possibilities and organized his body movements to improve his language.

As it is a different therapy, the service has had to define its clinical practice and its forms of efficacy, and it takes years to see an improvement, which is noticeable in the motility of tongue movements, facial expressions, guttural sounds, cognitive associations and comprehension. It has not been easy to systematize the rehabilitation because the reports in the clinical file are brief, while in the external files they can deepen in the small achievements, such as vocalizing a consonant better or planning future work.

Although we did not have access to Rodrigo's diary in rehabilitation, we recognized that the focus was on recovering the system he had lost in the injury; Rodrigo made himself understood through signs, drawings and sounds. The work plan for him was determined by his ability to learn, so improvement is difficult when therapy attempts to develop internal tools to narrate his desires, emotions and thoughts.

Rodrigo's family became involved in his rehabilitation by trying to communicate with him so that he would learn to narrate his own needs. His sister, Lidia, and his mother constantly took him to therapies. Rodrigo's advantage is that his nuclear family has supported him to perform the different therapies that were left for them at CASMN. The family's commitment helped to consolidate a unique language, since they communicated by acting, raising their voices and gesturing when they were with him. That is, they built new communicative pathways to guide Rodrigo and make him see that language is not foreign but internalized within different cognitive areas. In previous qualitative studies it was shown that the family was the main support for any clinical effectiveness, for any achievement in the rehabilitation of expression and communication, which entails a change in family dynamics to integrate the clinic to the care of the patient<sup>21</sup>.

These findings show that Rodrigo, at the beginning, was in a world of imaginary and existing rules but he did not understand them, this made him move in his body as a foreigner, until little by little, with rehabilitation, he was recognizing the world of objects, spaces, rules and the meaning that surrounded them. In short, there was a reconstituted body grammar, where the phonetic norms are not the same, where social relations change and the brain has the possibility of modifying itself according to the experience of living with a lesion in this organ that affects the naming of the external world.

The clinical language constructed by Rodrigo and Marta implied the mobilization of discourses known to the family. In other words, everyday communication channels were crossed by the clinical knowledge of language rehabilitation. The way Rodrigo perceived his body, his gender and his social role made him behave in a certain way with people, as he used to define himself as conceited and sometimes overbearing.

On the other hand, the clash of the language rehabilitation service with the biomedical institutional block reveals clinical strategies that are generated and that should be considered, since biomedical power has well-defined discursive limits, but, despite institutional regulations, the interesting part is to see that this kind of rehabilitation overcomes these difficulties and manages to turn them into its advantage by creating a different semiotic, an alternative discursive approach that has an impact on the lives of people affected by aphasia.

Language rehabilitation has generated several strategies to negotiate with biomedical regulations, since these therapies require constant work and several years to obtain a positive result.

The CASMN attempts to regulate the interactions of all health professionals and patients. This demonstrates a convergence of three agendas with their own interests, as mentioned by Hamui *et al.*<sup>27</sup>: that of the physicians who employ an objective discourse; that of the patient who articulates the discourse; and the administration that establishes the times and processes of care.

The meaning produced in clinical interactions has different voices that we find in the narratives of rehabilitators, patients and family members. On the other hand, we find a clinical language that takes up the biomedical discourse and that, in the case of rehabilitation, employs a clinic that threads a discourse in which a new grammar of the body is defined in people with aphasia.

## Conclusions

On this research approach, the clinic represents a language that describes the course of the disease in order to intervene and modify its course. Language rehabilitation estimates the impact of brain disorders on the central nervous system and involves a process of permanent dialogue and communication during the clinical act because it attempts to modify the course of life of the affected persons. Accordingly, rehabilitation entails the interaction and the incorporation of a new body language for people to understand their world again<sup>28</sup>. This language requires rules, meanings and contexts contained within a grammar that is built gradually.

The act of narrating implies recreating a discourse within its universe in order to achieve an adequate communication, as this act trains different ways to construct diverse senses about the body and the context of people. It is relevant to see that the ability to narrate is present in us and has the purpose of expressing and restoring cultural orientation and is also relevant to our way of perceiving the world. In the case of language rehabilitation, the narrative capacity<sup>20</sup> evoking memory and everyday experience and allowing people to make sense of their lives through their relationship with people and objects, is a unique social condition that can be explored by the social sciences.

The strip of activities problematized in this text are the clinical interactions of the language rehabilitation service that produce the introspection of a new body grammar helping to improve the cognitive and motor situation of the affected persons. This form of clinical practice in a biomedical institution such as CASMN reveals a marginal process that occurs constantly in health institutions and that collective health should consider.

Van der Geest<sup>29</sup> points out that health care processes reproduce global logics that dictate the ways in which health institutions are organized. These processes are expressed locally and in the doctor-patient relationship, as well as in the configuration of patients' experiences. Effectiveness is revealed in another way, as they understand therapeutic practice from a different perspective, which implies constructing a "situated language" to develop such a grammar.

The body is the field of registration of culture and social relations as an extension of human perception that constructs consciousness and experience. In the body symbols are embodied, the world is visualized and objectified. When this capacity is lost there is an adjustment through the construction of new synaptic pathways and new relationships that allow a different orientation of the world. Hodotopy is a bodily adaptation that reestablishes brain synaptic connections, but this regeneration could not be considered without the symbolic stimuli conferred by culture, social relations and clinical interactions, so the connection of the brain with the sociocultural context is the most relevant contribution of this work because it demonstrates that regeneration and rehabilitation are sociocultural acts that can be narrated with the body.

One of the limitations of this research is that it did not explore the experience of other people with aphasia, since the rehabilitation service assists a diverse population and the researchers considered one person per clinical scenario. Nevertheless, we believe that there are relevant contributions, such as looking at the processes of effectiveness in alternative therapies to better rehabilitate people with motor aphasia, cognitive impairment and advanced chronic diseases, which are very different from the administrative agenda that standardizes rehabilitation processes from a biomedical logic.



## Collaborations

TL Taylor is the main author, he created the design, the methodology, the proposal, wrote the article and followed up on the publishing process. A Paulo Maya is the second author, he participated in the design and methodology, collaborating with contributions and reflections on the above-mentioned sections.

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