



The Ritual Play and Altered States of Consciousness: the psychophysical processes in actor creation work

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ABSTRACT – The Ritual Play and Altered States of Consciousness: the psychophysical processes in actor creation work – This article discusses the psychophysical processes of the actor from a laboratory practice developed with the Arkhétypos Group. The exposition presented is the result of the meeting of two researchers, one from the Performing Arts area and the other from Physiology, generating an interdisciplinary discussion about the *Ritual Theater*. This article analyzes two creative processes experienced by the authors and proposes an approximation with the theory of transient hypofrontality. The methodological approach is based on the anecdotal evidence and a rigorous bibliographic study. The partial results of the research help us understand what happens to the cerebral physiology of the actor who enters the *ritual play*.

Keywords: **Ritual Play. Altered States of Consciousness. Neuroscience. Creation Process. Actor.**

RÉSUMÉ – Le Jeu Rituel et les États de Conscience Modifiés: les processus psychophysiques dans le travail de création de l'acteur – Cet article discute les processus psychophysiques de l'acteur à partir d'une pratique de laboratoire développée avec le Groupe Arkhétypos. La réflexion présentée est le résultat de la rencontre de deux chercheurs, l'un du domaine des arts de la scène et l'autre de la physiologie, générant une discussion interdisciplinaire sur le *Théâtre Rituel*. L'article analyse deux processus créatifs vécus par les auteurs et propose une approximation avec la théorie de l'hypofrontalité transitoire. L'approche méthodologique est basée sur les preuves anecdotiques et une étude bibliographique rigoureuse. Les résultats partiels de la recherche nous aident à comprendre ce qui arrive à la physiologie cérébrale de l'acteur qui entre dans le *jeu rituel*.

Mots-clés: **Jeu Rituel. États Modifiés de Conscience. Neuroscience. Processus de Création. Acteur.**

RESUMO – O Jogo Ritual e os Estados Alterados de Consciência: os processos psicofísicos no trabalho de criação do ator – Este artigo discute os processos psicofísicos do ator a partir de uma prática laboratorial desenvolvida junto ao Grupo Arkhétypos. A reflexão apresentada é fruto do encontro de dois pesquisadores, um da área de Artes Cênicas e outro da Fisiologia, gerando uma discussão de caráter interdisciplinar sobre o *Teatro Ritual*. O artigo analisa dois processos de criação vividos pelos autores e propõe uma aproximação com a teoria da hipofrontalidade transitória. O recorte metodológico se estrutura a partir da evidência anedótica e de um rigoroso estudo bibliográfico. Os resultados parciais da pesquisa ajudam a compreender o que acontece com a fisiologia cerebral do ator que adentra ao *jogo ritual*.

Palavras-chave: **Jogo Ritual. Estados Alterados de Consciência. Neurociência. Processo de Criação. Ator.**

Introduction

This article was born from the meeting between two researchers from two fields of knowledge and two different types of knowledge that have coordinated and continue to coordinate based on the artistic practice conducted within the sphere of the *UFRN Arkhétypos Theater Group*¹. The Group has worked for ten years adopting a ritualistic perspective of the scene and has developed a proposal for *Ritual Theater* that has been disseminated by means of publications and practical experiments by its members and former members.

The *Ritual Theater* proposal developed by the Group has been strongly influenced by the thought of Polish researcher Jerzy Grotowski, who proposes a return to the mythical and ritualistic origins of the scene. Researcher Joice Aglae Brondani (2015), in her text *Estados Alterados In/Conscientes*, reminds us of the importance of Grotowski in studies on the ritual:

Grotowski brought/brings to light shamanic/ritualistic popular culture as art of a unique quality, capable of elevating the actor and the spectator to a categorical level that transports them to a mystical/mythical 'space' of encounter with the divine – as it happened in the beginnings of theater. [...] From Grotowski onwards, ritual came to be seen more as a potential for a possibility of transcendence of/in theater (Brondani, 2015, p. 146-147).

The *Ritual Theater* worked in the *Arkhétypos* Group is constituted as a collective, ceremonious, symbolic and performing act carried out before and with the audience, which becomes a witness of the ritualistic action: "Ritual Theater is an act of sacrifice, of the actor giving what is most intimate in their being. Ritual Theater mobilizes a series of skills of the actor, working the psychic, physical, emotional, energetic and symbolic aspects of the being" (Haderchpek, 2019, p. 15).

In *Ritual Theater* there is no separation between stage and audience, between actor and audience, and in the proposal developed by the *Arkhétypos* Group the actors and the audience constitute an ensemble that share a moment of symbolic connection, which brings reincarnation of the myth to the focus of the scene from the archetypal perspective of the rite. Founded

on an Artaudian approach, Cassiano Quilici (2004, p. 46, emphasis added) reminds us that:

The rite enables us to recover the idea of theatrical action as a ‘happening’ that involves and includes artists and audience, establishing a new reality, which should destabilize the patterns of perception and representations that have already crystallized. [...] Ritual theater is opposed to theater as a spectacle, breaking the distance that establishes the spectator.

The celebratory character of the *Ritual Theater* developed by the Arkhétypos Group involves its participants in a moment of *communion*, thus enabling the affirmation of a collective identity that reverberates in the individuals and enables them to reflect on themselves and their symbolic acts:

Ritual Theater has proven to be a form of resistance in these times in which we are living because it works a dimension of the being that has been denied, vilified: our personal, intimate, spiritual dimension, a dimension that differentiates us as unique beings, but that brings us closer as community beings, belonging and interdependent (Haderchpek, 2019, p. 15).

Several groups in Brazil work adopting the perspective of a ritualistic theater, among them we can mention the *Ói Nois Aqui Traveiz* Theater Group, from Rio Grande do Sul, the *Totem Group*, from Pernambuco, the *Sonhus Teatro Ritual* Group, from Goiás, and the *Tabihuni Group*, from Amazonas, each with its own approach, each with its language research, and each with an aesthetic proposal. In the case of the research carried out by the Arkhétypos Group in Rio Grande do Norte, the ritualistic aspects of the scene are focused on the process of making, that is, on the laboratory practices performed during the creation process:

The laboratories constitute excellent spaces to work on the human and emotional aspects of the actor; however, the final objective of the process, which brings with it a character of revelation, is not only therapeutic. The objective of the process is to create an artistic result, which highlights its completeness, which considers each stage of the process, and which is authentic precisely for that reason. Hence, the organization of the scenic material and the creation of a dramaturgy become essential (Haderchpek, 2016, p. 52-53).

Thus, we continue seeking to work this transcendent aspect of ritualistic theater through laboratory practice. However, since 2017, with the two

researchers and authors of this text coming together, we have often asked ourselves: what is there beyond laboratory immersion? What in fact happens to the brain activity of the actor² during the movements performed? What are the psychic processes that are activated through this laboratory practice of a ritualistic nature? Does the actor/performer/dancer has any control over these processes or do they happen in a totally unconscious way?

However, before starting our dialogue on the subject, it is important to note that one of the authors had not had any other experience or participation in Ritual Theater before what will be mentioned in the course of this text. He comes from Health Sciences, a field of quantitative knowledge that considers statistical data as the main source of scientific evidence, having little consideration for the perceptions of subjects involved in the experience, something quite common in the field of Arts; therefore, the construction of each phase of the artistic creation processes also underwent an individual reconstruction process.

Thus, the entire development of this actor/performer as an artist unfolded into a constant process of self-knowledge acquisition, denial and affirmation. This experimentation process was the basis for forming a network of fields of knowledge that come together to form a new vision about the psychophysical processes analyzed by the authors to justify the individual perceptions experienced, from a subjective perspective, but based on neuroscientific explanations that could relate and bring to light each experiment recorded in our logbooks during the creation processes presented below.

It should be noted, however, that the Arkhétypos Group's creation methodology has been disseminated through books³, articles and master's and doctoral research. The structural elements of the methodology now presented are the *poetics of the elements* (Vargas; Haderchpek, 2017; Haderchpek, 2017b), *the dramaturgy of the meetings* (Haderchpek, 2016; 2019; Coutinho; Haderchpek, 2019) and the *ritual play* (Haderchpek, 2015; 2018; 2019; Almeida; Haderchpek, 2020), the latter being the focus of our analysis in this article.

Thus, to address this interweaving of knowledge and its relation with ritualistic theater developed within the group, we will present anecdotal ev-

idence of these experiences based on the personal experiences of the authors⁴ of this text, evidence that was developed during the creation processes now analyzed. Furthermore, we will use as a basis for this the theoretical frameworks on the creation process published by the *Arkhétypos Group*, and we will correlate them with other frameworks from the field of neuroscience and psychobiology research to present a theoretical hypothesis through which we can deduce what transpires with a performer who enters the altered states of consciousness in the practices of *ritual play*.

Ritual Play Creation Laboratories: analysis of experiences

After two joint experiences in the Arkhétypos Group, the researchers and authors of this text decided to share the reflections resulting from that meeting in the form of an article. The first experience mentioned here is the process of staging the work *Mi Casa su Casa*⁵, a scenic novel presented in three chapters developed through a laboratory practice called *ritual play*:

In our case, as we adopt in our work the perspective of Ritual Theater, we create in a threshold between dance and theater, between theater and music, and between all these and ritual, hence the term ‘ritual play’ has reflected our scenic pursuit and our pedagogical proposal. The ‘ritual play’ returns to the primitive origin of the play and places it in a category prior to the division between dramatic play and theatrical play (Haderchpek, 2018, p. 61).

The *ritual play* itself takes place through a laboratory practice of scenic creation oriented toward symbolic, playful elements and the unconscious. When we work with *ritual play*, we do not work with a linear logic; we work through the altered states of consciousness:

In the Ritual Play, both the actor and the audience operate through altered states of consciousness, and this precept acts as a facilitator in the process of resignifying the space. Operating on the basis of this relationship with the unconscious and the imagination, the space of the rehearsal room or presentation stage acquires a new meaning. In the Ritual Play, space-time is not linear and spatialities overlap (Almeida; Haderchpek, 2020, p. 10).

In the book *Grotowski: estados alterados de consciência: teatro, máscara e ritual* [Grotowski: altered states of consciousness: theater, mask and ritual] (2015) organized by Joice Aglae Brondani (2015), there is a chapter entitled The Art of the Actor and Possession: The Altered States of Consciousness (ASC) in their interrelationships with Theater, written by professor and re-

searcher Giuliano Campo from the University of Ulster in Northern Ireland. In this chapter, the researcher mentions 14 types of trance and some of them are directly related to the altered states of consciousness of the actor's work.

By analyzing the proposal of the aforementioned author, we found that the Arkhétipos Group's practices are mostly related to the *advanced trance of the second type*, where the subject adopts an active posture within the play and "[...] is directed by a guide who leads them to a state of physical trance and, at the same time, mental trance, gradually" (Campo, 2015, p. 87).

This state of physical trance connects the actor/performer with their pulses and impulses, contracting and expanding their body and consciousness and creating friction between the mental and the physical, between the internal and the external, always in a perspective of reorganization of space-time.

In the case of the scenic novel *Mi Casa su Casa*, this is exactly what happened, during the creation laboratories the actors/performers acted through altered states of consciousness and symbolically resignified the dimension of space-time, coming and going in the times of memory, of reverie and reality. Let us see Figure 1 below:

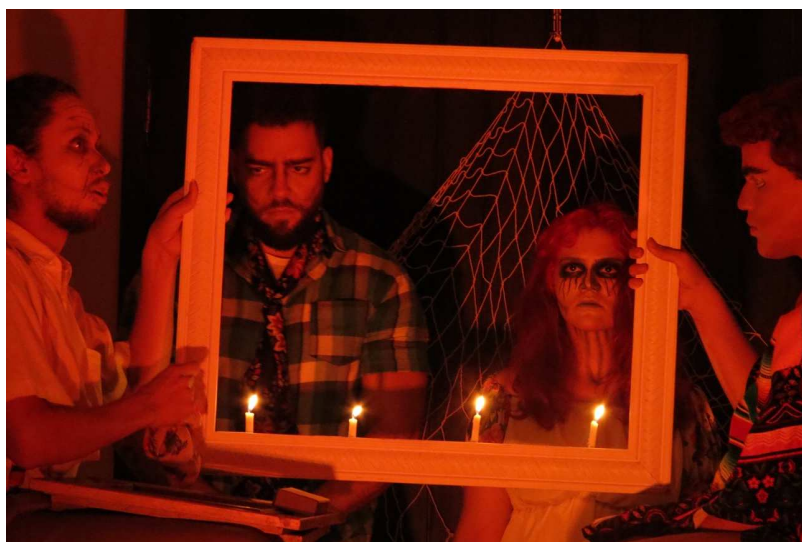


Figure 1 – Jason Gabriel, Leônidas de Oliveira, Valéria Chaves and Yogi Brito in the show *Mi Casa su Casa*, Brazil, 2018.

Source: Arkhétipos Group Collection; Picture: Ana Clara Veras (2018).

The second experience was the artistic residency *Juego Ritual y Ancestralidad*⁶, which resulted in the ritualistic performance *Encontros Ancestrais Cempasúchil*, presented in Mexico in 2018 with artists from Brazil, Mexico and Chile (Figure 2).



Figure 2 – Galaxis Maldonado, Karyne Dias Coutinho, Bety Robles Reyes, Rocio del Carmen Tisnado Vargas, Betsy Gina Vargas and Leônidas Oliveira Neto in the Ritualistic Performance *Encontros Ancestrais Cempasúchil*, Mexico, 2018.

Source: Arkhétypos Group Collection; Picture: Robson Haderchpek (2018).

In the two abovementioned creative processes, we were introduced to topics of discussion about Mexican culture, in particular, the view/belief that the native peoples of Mexico have about life after death and its relation with the lives of their descendants. According to Mexican belief, we have two deaths: the first is our carnal death on Earth, the second is when we cease to be remembered on Earth and then we will cease to exist on the spiritual plane as well.

Understanding this and taking the work of the actor/performer as a point of analysis, we were encouraged to search for images, prints or figures that could develop a relationship that would recover the memories of our ancestors; these could be photos of deceased relatives or even images correlated with some feeling that would awaken memories about our ancestors. In the specific case of one of the authors of this text, the image chosen for the *Mi Casa su Casa* process was that of a moment of connection with his son, and the image chosen for the artistic residency in Mexico was that of an absent father.

Let us see the two images (Figure 3 and Figure 4):



Figure 3 – The Father. Picture: Shot by Leônidas de Oliveira Neto and used as part of the ritual theater artistic process.

Source: Personal Archive of the Researcher.



Figure 4 – Connection with the Son. Picture: Shot by Leônidas de Oliveira Neto and used as part of the ritual theater artistic process.

Source: Personal Archive of the Researcher.

Based on the experiences stemming from these experiments, we were able to reflect on the psychophysical aspects of the actor's creation process,

using as input the two creative processes, the perception of the subjects involved in the scenic practices, and the researchers' analytic capacity, founded on their respective fields of training: performing arts and neuroscience, always emphasizing the actor's psychic processes.

That said, we invite the reader to embark with us on this process of converting ritualistic processes to create a new understanding concerning a psychophysical perspective of *Ritual Theater*, a sort of theater accomplished through the actors' intimate relationship with themselves and with their imagination, and which begins with a search for the symbolic universe of the researched themes. In our creative processes, we always start from a theme that is worked through the aspect of the unconscious. Thus, the actor must choose an image, figure or print; something that refers to the dreamlike characteristics that somehow relate to the proposal that will be developed into ritual play.

Psychophysical Perspectives of the Creation Process: stimuli based on symbols

As presented above, the actors' creation process commenced with the choice of an image, which would trigger a series of movements and emotions, enabling the actor to dive into a certain symbolic universe. Initiating the stimuli in the pursuit of this immersion in a fictional reality through symbolic stimuli seems to us an absolutely plausible way of access, since reflecting on the use of symbols and metaphors promotes the connection between the conscious and the unconscious (Gunnarsson; Eklund, 2009; Hanes, 1997; Isaksson; Norlén; Englund; Lindqvist, 2009; Martin, 1997; McNamee, 2004; Meijer-Degen; Lansen, 2006). Thus, is it possible to hypothesize *why?* artistic creative processes communicate in a symbolic or metaphorical way and shape unspoken experiences, emotions or fantasies externalized or not by the actors/performers.

After choosing this image⁷ that would be used in the construction of the shows, the actor, performer or dancer was encouraged to transport this image to the body, allowing it to find its flow. What feelings did this image evoke in us? What smells, colors and tastes did it remind us of? There were constant stimuli to recover this entire symbolic universe while we moved intensely.

Expressing thoughts, feelings and experiences in colors, shapes and symbols provides an opportunity to tell someone's story and foster understanding of oneself in one's current situation of life (Gunnarsson; Eklund, 2009; Gunnarsson; Jansson; Eklund, 2006; Henderson; Rosen; Mascaro, 2007; Luzzatto; Sereno; Capps, 2003; Monti et al., 2006; Trombetta, 2007). Thus, whenever an actor/performer chose some symbol, some color, they expressed some feeling or thought, even if symbolically, and created a possibility of opening a channel between their inner world and the external environment; and somehow that was very telling of who we were, implicitly or explicitly. Knowing this and thinking about it may have been the main initial barrier to the creation process, as we were driven by questions that made us reflect *Who of the many selves do I want to externalize here today?, Will I be ashamed of what I will externalize?, What will the audience watching the show think about this self that is being presented?.*

This information is extremely important for the reader to understand the nature of the process, because if the actor and/or the dancer does not enter the magical-symbolic universe of the *ritual play*, it does not happen, and we are dealing here with an altered state of consciousness, or a type of *conscious trance*:

In fact, there is no loss of consciousness, what happens is that the actor/dancer is so immersed in this suspension of time that they stop following their conventional everyday logic and start to adopt a fictional logic, an ancestral logic, which transcends idea of personality, of the inner self, and reaches an archetypal, universal dimension (Haderchpek, 2018, p. 61).

In the next topic, we will return to this issue of ancestral logic through the studies of liminality proposed by Victor Turner (1974); however, for the moment, what interests us is to understand that within the ritual play the actor/performer starts to act according to an unconventional logic, breaking with the laws, norms and standards of the everyday reality.

Diluting Self-Judgment as a Door to Immersion in an Altered State of Consciousness

In order to participate in this *ritual play* proposed during the creation processes of the shows, we first had to strip ourselves of any prejudices, fears, misgivings and pre-judgments. And perhaps one of our first barriers

was the constant rationalization of all the movements and feelings perceived. Questions such as *Am I moving as I would like to be observed?*, *Why did I choose to move this part of the body?* constantly chased us, like an inner voice that could judge us, and it was fed by our misgivings and prejudices, or it was torn apart by our artistic looks, so that we could play.

To dissolve these conscious judgments within the *ritual play*, we need to act through the *altered states of consciousness*, as these are the states that transport the actor/performer/dancer to what British anthropologist Victor Turner (1974, p. 117) called *liminality*:

Liminal entities are situated neither here nor there; they are in the middle and between the positions assigned and ordered by law, customs, conventions and ceremony. Their ambiguous and indeterminate attributes are expressed by a rich variety of symbols, in those various societies that ritualize social and cultural transitions.

Studying the rituals of some African tribes, Victor Turner (1974) found that the participants of the rites entered a *liminal space-time*, creating a fissure in the conventional space-time and adopting a *liminal logic*, a logic that suppressed moral judgment and that temporarily suspended laws, customs, and social conventions of the community. Similarly, when the actor/performer/dancer enters the *ritual play*, they temporarily suspend the logic of everyday life and their moral judgment, coming to adopt a *liminal*, non-rational and ancestral logic, guided by the altered states of consciousness. And this is perhaps the greatest challenge of the creative process, because “[...] if the actor and/or dancer is not open to the ‘ritual play’, it does not happen” (Haderchpek, 2018, p. 61). And this openness depends initially on the physical and psychic availability that the actor/performer will possess to surrender to the *liminal logic*.

Returning to the neuroscientific premise, we can understand this *self that judges* as *Self Awareness*. In fact, this constant judgment we are able to make is related to our brain’s ability to process data rationally about peripheral information that our body provides to it. This rationalization depends on the ability to focus on the information we process.

According to Tenenbaum (2001), when we perform any motor practice, such as walking or running, at all times we have a conscious *voice* that tells us about the effort made for that energy. When we perform a light ac-

tivity, we still have the ability to think about anything else around us, such as people, the environment, or any other thought that may disconnect us from the practice being performed – including judgmental thoughts. We call this situation *dissociative thoughts*.

On the other hand, when we increase the intensity of the proposed activity, we are no longer able to focus on anything that is not related to the motor activity that is being performed, such as muscle pain, tiredness, the effort associated with the movements performed. We refer to this situation as *associative thought*. At the height of physical exhaustion, any attempts to rationalize what is happening tend to be diluted amid so much information. This happens because the brain has a limited capacity and the body tends to interpret the information that can be more harmful to the organism, as a mediator of the physiological collapse, increasing the focal attention on the physiological changes resulting from the maximum effort, such as heart and respiratory rate. Therefore, during *energetic training* (Burnier, 2009) and within the *ritual play* (Haderchpek, 2015; 2016; 2018; 2019; Almeida; Haderchpek, 2020), any judgments tend to be diluted, as both require exhaustive body practice.

Psychophysical Perspectives of the Creation Process: in pursuit of exhaustion

In order to stimulate the creation process of the actor/performer/dancer, in addition to the symbolic relations used to achieve this state of immersion, another aspect used repeatedly in the processes under analysis was the body work stimulated by the director. In this psychophysical work, the movements are paced and gradually vary the use of weight, frequency and time. These stimuli were maintained until we reached a point of exhaustion, where we could no longer voluntarily control these movements and much less think about them. This initial work is carried out according to *energetic training*. According to Luís Otávio Burnier (2009, p. 140):

Energetic training, by causing this sort of purge of the actor's first energies, boosts potential energies, induces and provokes the actor's contact with himself and teaches him to recognize, in the darkness, after an increasingly

deep walk inside, unknown, *forgotten* places that can become sources for the creation of art.

The aim of boosting the actor's energy is to take him out of the context of everyday life and bring him to the *liminal* logic, to the sphere of the unusual, eliminating the time lag between impulse and action, as advocated by Grotowski (1992, p. 14-15):

We do not educate an actor, in our theater, by teaching him anything; we try to eliminate his organism's resistance to this psychic process. The result is the elimination of the time lag between inner impulse and external reaction, so the impulse already becomes an external reaction. Impulse and action are concomitant: the body evanesces, burns and the viewer watches a series of visible impulses. Our path is a *negative path*, not a collection of techniques, but the eradication of blockages.

When performing *energetic training*, the actor/performer/dancer stops rationalizing the process, and stops judging himself and his actions, eliminating his organism's resistance to this psychic process. Additionally, it is worth noting that during body movement, worked on in the laboratory practices of *ritual play*, it is necessary to activate a gamut of contracted muscle groups to put the actor/dancer/performer in motion. The brain, governing this coordinated muscular activity, in turn, has a limited metabolic capacity at its disposal to manage this whole process. For this reason, it temporarily ceases the activation of some specific regions, so those areas closely related to movement, such as sensory, motor and autonomous areas, have at their disposal the energy flow capable of guaranteeing the maintenance of the proposed activity (Stoll; Alfermann; Pfeffer, 2010 apud Schmid, 2017, p. 40).

Transient Hypofrontality in the Actor's Creative Work

The frontal cortical region stands out among the structures that temporarily reduce activity so resources are directed to target areas. Neuroscientist Arne Dietrich (2006) was a pioneer in proposing this theoretical hypothesis called transient hypofrontality.

The frontal cortex is responsible for the functioning of the higher cognitive centers, such as memory and attention. Thus, when we are in a practice of constant bodily activity, such as that which occurs in *ritual play*, we

lose the capacity of this brain region responsible for the space-time perception. This can be seen as a plausible explanation for the phenomena of the perception of alteration of space-time and absence of self-consciousness (Dietrich, 2007).

To complete the line of reasoning, the frontal lobe participates in the conscious judgment process that creates individual affective perceptions through symbols, images, objects and situations available to the manipulation of the mind, enabling us to conduct the activity of thinking, choosing or deciding (Soussumi, 2006). Suppressing this area explains the reasons why for some moments we forgot about the judgments and created an action link with the other actors/performers/dancers.

Using this psychophysical perspective as a reference, we can relate the aforementioned theory to what happens within the laboratory practices of ritual play, enabling our body to act in an artistic and poetic dimension through a gradual reduction in the ability to rationalize facts. In this sense, we found in the performers' logbooks, both in the creation process of *Mi Casa su Casa* and in the ritualistic performance *Encontros Ancestrais Cempasúchil*, developed in Mexico, reports that make us reflect on this approach with the theory of transient hypofrontality:

We continued dancing around that room for almost an hour in such an inexplicable connection that the movements were succeeding each other as if that dance had been rehearsed and performed many, many times before; however, we were 'just' improvising; and it was impossible for us to contain the emotion, and I cried, and I did not even think and I was crying, and my tears flowed happily and silently as we danced. It was like magic, as if I was feeling my body again for the first time in its total integration, as if all its parts were one thing in full harmony; and my body moved freely and by itself, in tune with the lightness and peace that constituted it at the time. That arrangement of movements that my body was able to do on its own, without me having control over it, self-generated a pleasant and pleasurable feeling of belonging, in a complete and impossible relationship of belonging to the set of everything that exists in the universe, as if everything were in agreement, with total absence of conflict between my body and the world, as if my body were the world and could encompass all spaces in an ethereal, sublime, celestial way (Logbook of Karyne Dias Coutinho, Cuernavaca, Mexico, October 30, 2018)⁸.

As we can see in her account, the actress reports that she danced for almost an hour feeling her body free. She also emphasizes that her body act-

ed on its own, without her having control over it, raising a central issue in which emotions are triggers for the body movement presented.

Quite different from studies that analyze cerebral hemodynamics on a treadmill or bicycle, bodily practices performed in ritual play allow us a possibility of global movement and, in fact, lead us to maximal physical exhaustion. Our analyses, in this sense, are based on the anecdotal experience, and thus we reflect on the reports of the actors/performers. In addition, it should be noted that physical exercise alone does not necessarily promote emotional stimuli that are inherent to the motor practice performed, especially in studies that seek to study brain activity with a focus on exhaustion.

Evidence shows that, among brain structures, the insular cortex (IC) is one of the main areas responsible for the consciousness of subjective feelings in the body (Craig, 2002; Craig, 2009). It is also known that the IC receives homeostatic afferent signals, which provide the basis for the insular flow of integration about the *self-consciousness* (Craig, 2011). Therefore, the literature shows that remaining in an exhaustive motor activity, based on *willpower*, should provide the subjective feeling of engagement underlying the *feeling of effort* (Craig, 2009; Craig, 2011). Thus, stimuli in this region could be a new proposal to elucidate the effects of IC as a modulator of bodily sensations and the ability to remain in a given exhausting effort (Okano et al. 2013).

Thus, it is possible to hypothesize additionally, according to the study of movement, that the great differential of the *ritual play* is precisely to reach the peak of a physical exhaustion associated with emotional stimuli, which are reiterated by the director during the creation process with phrases such as: *Remember the image you brought, Put out the movements that this image/figure reminds you of*. Therefore, we analyzed this phenomenon as a differential achieved by theater, a window of possibility to modulate deep brain areas responsible for the sensations inherent to exhausting motor practices performed during *ritual play*.

In addition, individuals of different levels of fitness may show adaptation and/or efficiency in brain regulation. Therefore, finding these links with limbic structures, which provide us with emotional stimuli, may lead to this transient hypofrontality and, thus, assist in this process of immersive reality (*liminal logic*) constantly experienced in ritual play.

Psychophysical Perspectives of the Creation Process: other observations

After immersion into ritual play, some questions often emerged: *What were the reasons that led me to choose the image/symbol used in ritual theater?*. It is difficult to determine how these symbols are chosen, if there is randomness, if not, if we think of the best image, or if it was the first one that came to mind. The fact is that this phase of choosing the image occurs and it is somehow engraved into our body throughout the process.

After some laboratory practices, we recognized actions that became recurrent and which became part of the actor's poetic vocabulary. This may have characterized the beginning of our process of immersion in ritualistic theater, because instead of confronting what was happening we wanted to understand why we were expressing ourselves in that peculiar way that did not relate to any other known person, no reference previously given. It was not an imitation, it was something created from the inside out, from our unconscious.

Within the laboratory, these actions were repeated numerous times and stemmed from an *altered state of consciousness*. As in a ritual, action connects the participant to a dreamlike atmosphere and transports them to a *liminal* dimension in the present time. The actor/performer/dancer is in the rehearsal room playing, but it is as if they were somewhere else, in a magical-fictional space that enables them to be who they want to be: an angel, a demon, an animal, an unknown ancestor, a hero, a villain, a warrior, a witch, a mother, a grandfather, or a force of nature.

When we were at the artistic residency on *Juego Ritual y Ancestralidad*, something unexpected happened during the presentation of the ritualistic performance *Encontros Ancestrais Cempasúchil*. Throughout the process that we were living in the artistic residency on *Juego Ritual y Ancestralidad*, we began to unconsciously repeat movements and emotions experienced in the process of building the show *Mi Casa, Su Casa* started in Brazil.

Regarding this fact, it is worth highlighting from the point of view of neuroscience that through multiple repetitions the actor/performer/dancer gradually changes the activity of explicit, flexible and largely prefrontal neurological systems, through which he consciously initiates each movement. By doing this, the actor activates the implicit performance system, includ-

ing the cerebellum; this happens when the skill gradually becomes so incorporated through the synaptic pathways that they are formed and reinforced allowing us to perform movements without conscience (Dietrich 2006). Thus, we can say that intuitively those motor patterns that we had reproduced in the laboratory processes had turned into *engrams* and started to relate affective memories with motor memories, perhaps more strongly consolidated by the relation between movement, emotions and images.

Final Considerations

Understanding the psychophysical processes of the actor/performer/dancer can be extremely important for those who study the ritual play and the ritual scene. Perhaps this information is irrelevant to them on scene, but knowing the intricacies of the creation process through a neuroscientific approach can help the actor to understand the reason for their previous judgments, the sense of choosing the images, the reason for the *energetic training* (exhausting) and the need to work with *altered states of consciousness*.

This theory of transient hypofrontality has been used to justify several studies on *altered states of consciousness* in work and sports activities, and our aim is to approach artistic activities as well, focusing specifically on *Ritual Theater* developed by the Arkhétypos Group, which is the basis of our experience. We believe it is possible to establish this relation with other types of theater and other artistic activities associated with visual arts, dance and music; however, for now we are limited to talking about our experience.

Finally, we believe that the aforementioned theory helps us to understand what happens to the actor's brain physiology within a laboratory practice of a ritualistic nature. In our view, the psychic processes that are activated in the actor/performer/dancer through this practice are decisive for them to eliminate the mechanism that controls and judges their actions, enabling them to play freely, without having to rationalize each action.

Through analysis of the processes *Mi Casa su Casa* and *Encontros Ancestrais Cempasúchil* we could also understand the importance of the *altered states of consciousness* in the actor's creative process and, even more, the need to work with the aspect of the unconsciousness. We also mapped the brain

processes of this actor and reflected on the relevance of *symbols*, *energetic training* and exhausting processes within the practice of *ritual play*.

And, in this construction of the wall of knowledge that underlies the creation processes in performing arts, providing this dialogue with neuroscience adds a brick as symbolic as the theme discussed here. As in any wall, windows are also exposed to remind us that we do not close on two sides but create openings for dialogue.

Notes

- ¹ Arkhétipos is a Theater Group from the Federal University of Rio Grande do Norte (UFRN), associated with the Department of Arts, Center for Human Sciences, Letters and Arts. Since its creation in 2010, the Group has been active in the areas of research and extension, conducting creative processes and producing theatrical shows that aim to establish proximity in the relationship between the community and the artistic-academic milieu. The Group has produced eleven shows, having been the subject of five research projects, seventeen course completion papers, seven master's dissertations and one doctoral thesis, in addition to being the subject of a book, three book chapters and twelve scientific articles (for further information, please refer to the Group's website. Available at: <<https://arkhetyposgrupodet.wixsite.com/arkhetypos>>. Accessed on: Mar 1, 2020.
- ² Throughout this article, we will use the term actor to designate the work of the actor/performer/dancer who works within Ritual Theater. Sometimes in the flow of writing we use variations of the term such as actor/performer, but we clarify that our objective here is the analysis of the psychophysical phenomenon and not the discussion of terminology; therefore, it is necessary to elucidate that all three forms used in the text refer to the participant in the *ritual play*.
- ³ Here we cite the books: Haderchpek (2017a); and Hauser-Dellefant (2019).
- ⁴ In the aforementioned experiences, one of the authors acted as director of the process, and the other as an actor/performer. The author who directed the processes holds Bachelor's, Master's and Doctoral degrees in Performing Arts, is a professor in the UFRN Theater Program and founder of the Arkhétipos Group; and the author who acted as an actor/performer is a professor in the UFRN Dance Program, he holds a Bachelor's Degree in Physiotherapy, Spe-

cialization in Neurorehabilitation, Master's Degree in Physical Education, and Doctoral Degree in Public Health.

- 5 *Mi casa su casa* is a scenic novel staged in three chapters: La Familia, El día que me quiera, and La Revelación. The plot is inspired by the legend of Lhorona, a tragic legend that pervades the entire Latin America. The show is enacted on three different days and presents a research about ancestry, about the Day of the Dead celebrated in Mexico. The show's creation process lasted one year, with weekly creative labs. The work premiered at the UFRN Department of Arts on December 3, 4, and 5, 2018. For more details, see the Group's website. Available at: <<https://arkhetyposgrupodet.wixsite.com/arkhetypos/mi-casa-su-casa>>. Accessed on: Mar 1, 2020.
- 6 The artistic residency sought to investigate the *Día de los Muertos* ritual in Mexico and was conducted jointly by three institutions: 1) the Instituto de Estudios Superiores en Artes Escénicas de Oaxaca (IESAEO), represented by Mexican actress and professor Rocío del Carmen Tisnado Vargas and students Bety Robles Reyes, Betsy Gina Montes and Galaxis Maldonado; 2) the Teaching Degree Program in Theater at the Centro Moralse de las Artes (CMA), represented by Chilean artist and professor Javier Díaz Dalannais; and 3) the UFRN Arkhétýpos Theater Group, represented by four of its members, all Brazilian: the group's director, Robson Haderchpek, professor in the Department of Arts; Karyne Dias Coutinho, professor in the Education Center; Leônidas Oliveira Neto, professor in the Dance program; and Ana Clara Veras, student in the Teaching Degree Program in Theater.
- 7 It is worth noting that, both in the process of creating the show *Mi Casa su Casa* and in the artistic residency *Juego Ritual y Ancestralidad*, the images dialogued with the theme of ancestry and that is why we chose to bring the two experiences together.
- 8 The excerpt concerns the second laboratory for creating the process, developed through ritual play.

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This original paper, translated by Roberto Francisco (Tikinet Edição Ltda), is also published in Portuguese in this issue of the journal.

Received on April 09, 2020

Accepted on December 28, 2020

Editor-in-chief: Gilberto Icle

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