

**CORPORAL FIGHTS: RITUALIZED ANCESTRAL ACTS IN THE ROCK
PAINTINGS OF SERRA DA CAPIVARA NATIONAL PARK/PI**

LUCHAS CORPORALES: ACTOS ANCESTRALES RITUALIZADOS EN LAS PINTURAS
RUPESTRES DEL PARQUE NACIONAL SERRA DA CAPIVARA /PI

LUTAS CORPORAIS: ATOS ANCESTRAIS RITUALIZADOS NAS PINTURAS RUPESTRES
DO PARQUE NACIONAL SERRA DA CAPIVARA/PI

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Abstract

The article addresses the ritualized act of the human groups' melee fights (without weapons) in the pre-colonial history recorded in the rock paintings in the Serra da Capivara National Park (PNSC), in Piauí. In the methodology, besides bibliographical review, three field expeditions were carried out with the purpose of identification and visual-imagetic collection of the paintings interpreted as "fights". Later, after vectorization - "graphic stripping"-, all the material was analyzed and compared in order to identify graphic patterns (or not) in the already catalogued records. Among the sites visited, only four were found to contain traces of fights without the use of implements/weapons. In two of them - "Extrema II" and "João Arsená" - the fights without weapons are located in a larger scene in which the other anthropomorphic figures - "individuals" - were carrying objects (clubs, staffs, thrusters etc.) and adornments (headdresses etc.). It is understood that the investigation demonstrates the relevance of the movements contained therein, revealing a symbolic universe, where the relevance of the rock scenes of fighting for those who lived there is verified.

Keywords: Rock Paintings; Body Fights; Pre-colonial History; Ritual.

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Resumen

El artículo aborda el acto ritualizado de las luchas cuerpo a cuerpo (sin armas) de los grupos humanos en la historia precolonial registrado en las pinturas rupestres del Parque Nacional da Serra da Capivara (PNSC), en Piauí. En la metodología, además de la revisión bibliográfica, fueron realizadas tres expediciones de campo con el objetivo de identificación y recolección visual-imagética de las pinturas interpretadas como "luchas". Posteriormente, después de la vectorización - "graphic stripping"-, todo el material fue analizado y comparado con el fin de identificar patrones gráficos (o no) en los registros ya catalogados. Entre los yacimientos visitados, sólo en cuatro se encontraron rastros de peleas sin el uso de implementos/armas. En dos de ellos - "Extrema II" y "João Arsená" - las luchas sin armas se localizan en una escena mayor en la que las demás figuras antropomorfas - "individuos" - portaban objetos (palos, bastones, propulsores, etc.) y adornos (tocados, etc.). Se entiende que la investigación demuestra la relevancia de los movimientos allí contenidos, revelando un universo simbólico, donde se verifica la relevancia de las escenas rupestres de lucha para los que allí vivían.

Palabras clave: Pinturas rupestres; Luchas Corporales; Historia Precolonial; Ritual.

Resumo

O artigo aborda o ato ritualizado das lutas corpo a corpo (sem armas) dos grupos humanos na história pré-colonial registradas nas pinturas rupestres no Parque Nacional Serra da Capivara (PNSC), no Piauí. Na metodologia, além de revisão bibliográfica, foram realizadas três expedições de campo conduzidas com intuito de identificação e coleta visual-imagética das pinturas interpretadas como "lutas". Posteriormente, após vetorização - "decapagem gráfica" -, todo material foi analisado e comparado para identificar padrões gráficos (ou não) nos registros já catalogados. Dentre os sítios percorridos, detectou-se apenas quatro com vestígios rupestres de lutas; sem a utilização de implementos/armas. Em dois - "Extrema II" e "João Arsená" -, os combates sem armas estão situados em cena mais ampla na qual os demais antropomorfos - "indivíduos" - portavam objetos (tacapes, bordunas, propulsores etc.) e adornos (cocares etc.). Entende-se que a investigação demonstra o relevo dos movimentos ali contidos, reveladores de um universo simbólico, onde se verifica a pertinência das cenas rupestres de lutas para quem ali vivia.

Palavras-chave: Pinturas Rupestres; Lutas Corporais; História Pré-Colonial; Ritual.

"For modern consciousness, a physiological act — such as eating, sexuality, etc. — is essentially just an organic phenomenon, despite the numerous taboos surrounding it (which dictate, for example, certain rules for 'proper eating' or prohibit sexually immoral behavior). However, for the 'primitive,' such an act is never merely physiological; it is, or can become, a 'sacrament,' meaning a communion with the sacred" (ELIADE, 2010, p. 20).

Introduction

In the current text, the ritualized act⁶ is understood as a time when an individual allocates part of their day to disconnect from duties/work, engage with the

⁶ In the context of hand-to-hand combat, a ritualized act aimed at avoiding a necessarily fatal outcome (e.g., individual/collective violence or resulting from a fight, etc.). Thus, something akin to a game

sacred, and/or arrange moments to rest from toil, such as enjoying free time to play. Caillois (1990) posits that the term "game" encompasses not just the activity it denotes but also "all the images, symbols, or tools essential for that activity or the operation of a complex system" (CAILLOIS, 1990, p. 10). A hermeticism that encompasses "[...] acknowledging that figurative games lead to art, objective games foreshadow work, and competitive games anticipate sport" (CAILLOIS, 1990, p. 194). This may have occurred throughout all eras of human history on Earth. Therefore, it seems pertinent that in the ancient times experienced by groups in the *Terra Brasilis*, they similarly found moments for their ritualized/recreational/fun practices, in pairs, trios, and collectively (GUIDON, 1991). This suggests the creation of an ancestrally active social environment.

Thus, recreational/fun activities have a unique trait for various social interactions, especially among groups, as they contribute to human social development. An evolutionary process in humanity that likely led to enhanced social cooperation. Thus, it is suggested that having and strengthening social relationships was essential ancestrally and remains so today. The ritualization (recreation/amusement)⁷ through a game, such as combats, might have been one of those paths.^{8,9}

(perhaps recreational/fun). Notably, interwoven with these pages, various ethnoarchaeological studies have suggested this possibility (Paiva, 2021; Paiva et al., 2022).

⁷Here, we question the recreation/amusement category, as it's elusive to decode such ancient rock art with precision. Thus, one could readily delve into Harris's (1976) emic (insider's perspective) versus etic (scientific observer's description) relationship. Thus, something such as a "recreational/fun game" may represent more of a researcher's understanding category. For that past group, it could bring other references. On the other hand, one must ask: isn't "recreational/fun game" tautological? Ultimately, is there any game that isn't fundamentally playful?

⁸Bartra (2014, p. 191) in "*Antropología del Cerebro*" asserts that "(...) play helps to build practical knowledge of the environment, acquire and refine physical skills, strengthen social relationships, and fine-tune both musculature and the nervous system."

⁹In this case, the ritualized hand-to-hand combat shaped by the Long Duration (*Longue Durée*), that is, as an extremely long historical phenomenon. It would be linked to continuities, to what persists in culture over time (BRAUDEL, 1965).

This document aims to contribute through previous research, interpretations, and inferences on the theme of ancestral ritualization/recreation/amusement. Other studies have observed Brazilian rock art scenes – archaeological remains with significant illustrative potential of our ancestors' daily life – in undergraduate theses (JUSTAMAND, 2006a; OLIVEIRA, 2007; PAIVA, 2017), master's theses (JUSTAMAND, 2012; SILVA, 2012; OLIVEIRA, 2014; PAIVA, 2021), doctoral dissertations (JUSTAMAND, 2015; OLIVEIRA, 2018), postdoctoral research (JUSTAMAND, 2014; 2016; COLLING et al., 2019), and scientific articles (JUSTAMAND et al., 2022; COTES et al., 2023), which have been investigating Brazilian rock art from this perspective for some time. Some of these studies focused on the theme, specifically, the rock scenes of PNSC-PI.

From these earlier writings, it is understood that rock art, engravings, and paintings embody a vast array of representations¹⁰ of human activities in ancient times (JUSTAMAND, 2005; 2006b; 2007a; 2007b; COTES et al., 2023). The ancestral period encompasses everything prior to the European conquest by the Portuguese in the *Terra Brasilis* (OLIVEIRA; JUSTAMAND; FUNARI, 2019). Including a factual time lapse made by Gebara (2005) in interpreting the earliest records of alleged physical activities of the indigenous peoples upon the arrival of Pedro Álvares Cabral's fleet, as reported in Pero Vaz de Caminha's letter to the King of Portugal in 1500 (cf. (COTES et al., 2023).

Fieldwork studies (conducted at various times in PNSC and published) have focused on rock paintings, particularly hunting scenes (BELARMINO, 2019; JUSTAMAND et al., 2020); various animals (QUEIRÓZ et al., 2020); women's contributions to societal life (JUSTAMAND, 2017; ALARCÓN-JIMÉNEZ et al., 2017; BUCO et al., 2020); masculinized presence (JUSTAMAND; FUNARI, 2014; JUSTAMAND; OLIVEIRA, 2021); the diversity of human sexual orientations and positions, including with other animals (JUSTAMAND; FUNARI; ALARCÓN-JIMÉNEZ, 2016; JUSTAMAND et al., 2021; JUSTAMAND et al., 2022a); hand-to-hand combats (PAIVA, 2019; PAIVA et al., 2022); group confrontations (OLIVEIRA et al., 2017);

¹⁰One must not overlook the potential reference to "mythical" / "supernatural" narratives linked to the cosmologies of ancient peoples, forming a significant part of their cultural background, yet not necessarily connected to everyday scenes (Paiva, 2021).

ancestral economy (JUSTAMAND et al., 2022b); ceremonies/rituals (JUSTAMAND et al., 2022c); the environment (JUSTAMAND et al., 2022d); dances (JUSTAMAND, 2019); same-sex relationships (COLLING et al., 2019; JUSTAMAND et al., 2022a); and the culture of movement before Brazil (COTES et al., 2023). Despite this, the text will examine certain scenes that suggest ancient ritualized activities, such as the depictions of hand-to-hand combats (PAIVA et al., 2022) engraved on the rocks of the Piauí park.

In field activities aimed at various forms of writing, production, publication, and interests, certain scenes etched into rocks required more meticulous attention (JUSTAMAND; FUNARI; ALARCÓN-JIMÉNEZ, 2018), suggesting that our ancestors may have been concerned with issues that today could be termed as recreation/entertainment/leisure, etc. Among these are scenes that could imply expressions of combats and dancing. Despite believing that some scenes might have been overlooked due to the high number of cataloged sites – over 1,000 – and the listing of more than 30,000 rock art scenes. Therefore, it is known that further observations are required. Nonetheless, selected rock "stages" implying combats were chosen for analysis and inference in this text.

The following is a brief description of the study area, the history of the PNSC, and conclusions about the images imprinted on the rocks of the Protected Area (PA) thousands of years ago.

Study area

The PNSC is located in the Southeast region of Piauí State, Brazil (08°26'50" to 08°59'23"S; 42°19'47" to 42°45'51" W). The AP is home to a unique fauna and flora of the Caatinga Biome, located in the Northeastern semi-arid region, notable for its geological formations: mountains, valleys, canyons, inselbergs, and plains (BARROS et al., 2012). Established by Decree No. 85,548 of June 5, 1979, it covers an area of 100,000 ha. Later, Decree No. 99.143 of March 12, 1990, added another 35,000 ha designated as Permanent Preservation Areas (GUIDON, 1988).

The Ministry of the Environment (MMA) ordinance No. 76 of March 11, 2005, established a mosaic of the AP encompassing the Serra da Capivara and Serra das Confusões National Parks, interconnected by an Ecological Corridor. Freire (2017) emphasizes that following this Decree, the surrounding areas of the Ecological Corridor amount to 414,000 hectares, encompassing the municipalities of São Raimundo Nonato, Canto do Buriti, Tamboril do Piauí, Brejo do Piauí, São Braz, Anísio de Abreu, Jurema, Caracol, and Guaribas – all situated in the state of Piauí (Figure 1).



Figure 1: Location of Serra da Capivara and Serra das Confusões National Parks, and adjacent municipalities. Source: Vitor J. R. Almeida (2023).

PNSC history

Initial reports of the archaeological potential in southeast Piauí emerged in 1963. Photos of rock paintings from Serra da Capivara's cliffs were shown to archaeologist Niède Guidon at the Paulista Museum of the University of São Paulo (USP) by the then-mayor of Petrolina, Luiz Augusto Fernandes. Only in 1970 was the area visited, leading to the discovery of eight archaeological sites on initial expeditions (COTES et al., 2021). Preliminary studies revealed a vast array of rock paintings, graves, ceramic remnants, anthropic stone artifacts, and paleontological traces (PESSIS, 1994; MARTINS, 2011; ALMEIDA et al. 2017).

In 1975, Niède Guidon sent a letter to the then governor of Piauí, Dirceu Arcoverde. In the correspondence, Guidon explains, based on the diagnosis of the scientific cooperation team of the Franco-Brazilian Research Mission, the establishment of the PNSC PA. In this request, reiterated in 1978 following the completion of fieldwork and the submission of a report to the Brazilian government, the team emphasized the importance of preserving the site due to its vast cultural, historical, and environmental value (PESSIS, 1994; MARTINS, 2011; BACKX, 2013; JUSTAMAND, 2007b; OLIVEIRA, 2018; COTES et al., 2021).

Upon validating the region's historical, environmental, and cultural significance, UNESCO added the park to the World Heritage list in 1991. The excavations at the PNSC AP have provided extremely important data for the study of the settlement of the American continent. Recent studies at the Boqueirão da Pedra Furada site, one of the oldest on the continent, suggest human habitation in the area dates back over 20,000 years, providing data and evidence that could challenge traditional theories of the Americas' settlement (BOEDA et al., 2014).

Since the inception of the PNSC, fostering a tourism infrastructure and enhancing it as a significant economic activity for the region has always been a goal (cf. ANDRADE; GUIDON, 2016; COTES et al., 2021). Significant investment in developing local tourism potential is the best way to boost the economy of communities around the park, and the ideal way to make the PA economically self-sustaining, without overshadowing the educational development efforts in the PA's vicinity (cf. COTES et al., 2021).

With this aim, in 1986, a dedicated team of researchers from the Franco-Brazilian mission, led by Niède Guidon, established the Foundation for the Museum of the American Man – FUMDHAM. The development of the PNSC management plan was assigned in 1988 to FUMDHAM and the Brazilian Institute of Forest Development, and from 1994, its administration was shared between the two agencies (PESSIS, 1994).

The park features the highest concentration of archaeological sites with rock paintings in the Americas. It features 1,354 registered sites, 183 of which ready for tourist visits, including 16 equipped for physically disabled access (MARTINS, 2011; COTES et al., 2021). Research by FUMDHAM suggests that these engravings are chronologically distinct and geographically delineated, as Justamand (2015) posits they were created in different historical periods, potentially dating between 6,000 and 35,000 years ago.

The cataloged archaeological sites of the park have yielded varied information on early human settlements in America, as they depict numerous aspects of their existence across the region's different ecosystems (PESSIS, 2003).

The recorded cave paintings depict various everyday scenes, which Justamand (2015) suggests likely had diverse functions, indicating the dynamic daily life of the country's early inhabitants. They also provide evidence of recorded history, education, socialization, physical activity – body movement culture –, communication, and religiosity in Brazil's ancient history.

Considering the number of sites already registered, the 186 sites prepared for visitation, the park's size, and the "[...] repertoire of educational and multidisciplinary knowledge on fauna and flora, geology, archaeology, megafauna, rock paintings, and the history of the American man [...]" (COTES et al., 2018, p. 174), necessary to provide quality information to visitors, since 1994, the management of the Protected Area (AP) recognized the urgency to organize ongoing professional training courses to qualify local residents to serve as visitor guides. Systematized and provided to date with educational and didactic-pedagogical features (COTES et al., 2017a; COTES et al., 2017b; COTES; ALVARENGA; NASCIMENTO, 2020; COTES et al., 2021).

The following outlines the adopted procedures for data collection and the proposed inferences.

Combat as a ritualized act

The proposed analysis is based on the dimensions set by Pessis's studies (1994; 2003), arranged in a diagram by Silva (2012, p. 63), aiming to characterize and identify patterns in rock paintings (Figure 2), following the guidelines for classifying these expressions through preliminary hypothetical cognitive recognition. Thus, Silva (2012) identifies the key elements for recognizing and characterizing a violent/combat scene as: "space division and figure placement in the scene; movement of one figure towards another; rhythmic movement of arms, legs, and body; figures with a body part hit, indicating aggression" (SILVA, 2012, p. 51). It is worth noting that not all the sites included combat scenes.

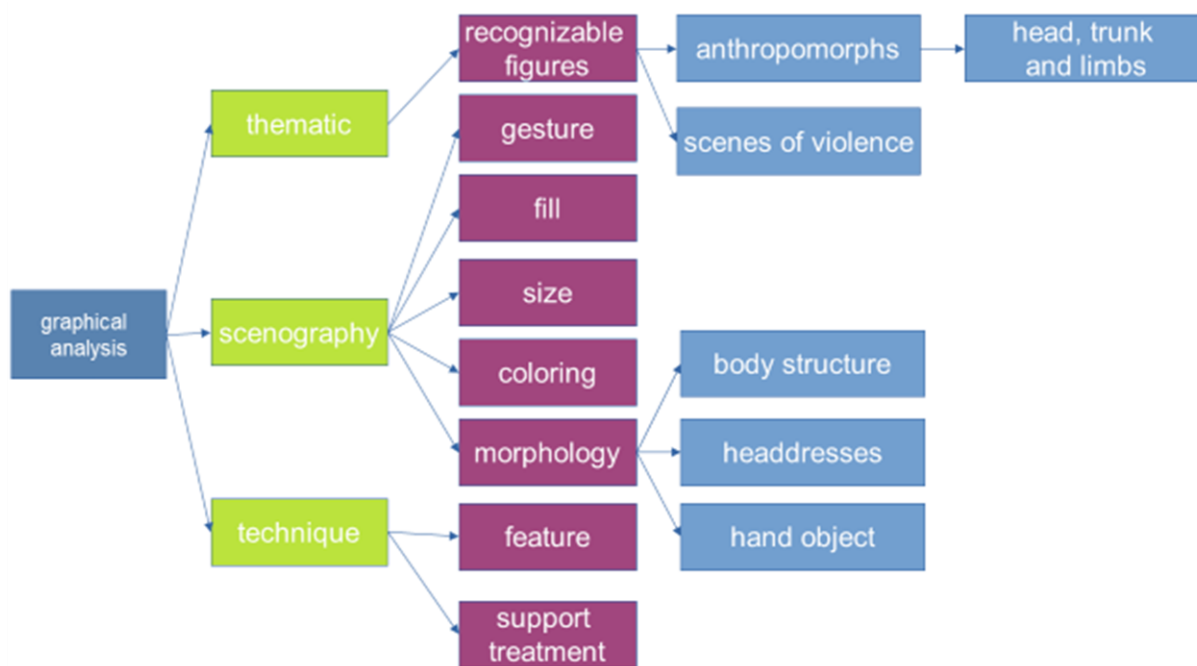


Figure 2: Dimensions (Thematic, Scenographic, and Technical) to characterize and identify graphic patterns in rock paintings. Source: Silva (2012, p. 63).

Nonetheless, it was important to access them in person for an on-site understanding of the graphic similarities and differences, as classified in the archaeological literature on the region into Tradition¹¹, Subtradition¹², and Styles¹³, reflected in their respective datings¹⁴.

Additionally, subsequent analyses (PAIVA, 2017; PAIVA, 2019) made it clear that the terms "combat" or "violence" could signify different social references, yet were often addressed together in many studies within the PNSC. For instance, they included under the same umbrella scenes of: anthropomorphs¹⁵ combating (with artifacts/"weapons"); hand-to-hand combat (without objects); execution (deliberate violence where the antagonistic anthropomorph seems not to defend) etc. Consequently, the first step after the sampling effort in collecting this *corpus* was to separate the hand-to-hand combat scenes (without the use of objects/"weapons" and "execution" references) from the others.

It is important to highlight a detailed analysis of one of these records in Figures 3 and 4 (Paiva, 2018). This investigation is of particular interest within the scope of this work. Beyond exploratory field research, a subsequent literature review and image analysis were conducted. In this context, emphasis was placed on the combat scene recorded at the archaeological site "Toca do Nílson do Boqueirão da Pedra Solta". The preliminary relative datings were primarily based on the archaeological assemblage's context and stylistic domain, suggesting a minimum age of 9,000 years BP¹⁶.

¹¹ In brief, "Tradition" denotes the visual depiction of an entire primordial symbolic universe (both natural and imaginary), potentially ancient (PESSIS, 1994, 2003; GUIDON, 1981, 1984). In the PNSC, "Northeast Tradition" prevails, dated between 15,000 and 6,000 years B.P. (PESSIS et al., 2018). It is characterized by recognizable traces (human figures, animals, plants, and objects) and the "pure" and/or "geometric" ones, which cannot be identified.

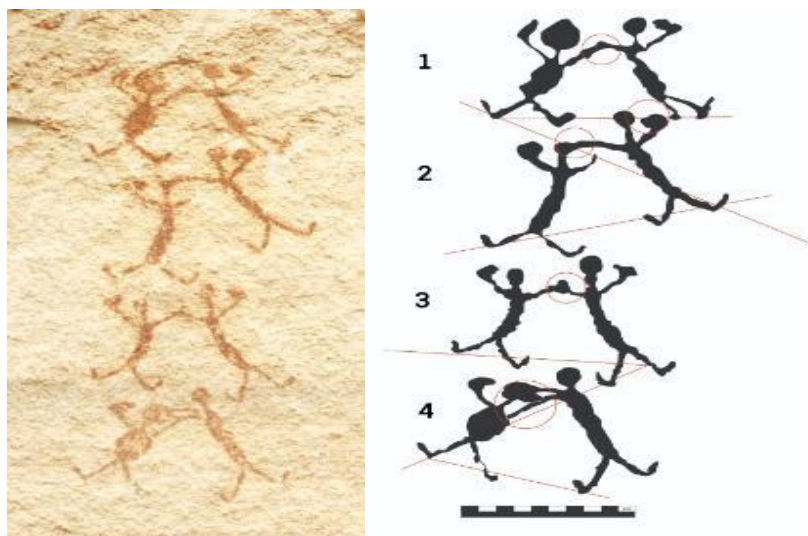
¹² "Subtradition" is a term coined to describe a group that has separated from a tradition and adapted to a unique geographical and ecological environment, entailing the introduction of new elements (IBIDEM).

¹³ The specific class resulting from changes in a subtradition is called "Style," indicating variations in technique and graphic presentation, with thematic innovations reflecting each community's creative expression (IBIDEM).

¹⁴ Chronology for the rock art in PNSC was established based on decades of archaeological research, among others. 1) "Serra da Capivara" style - Dating: between 15,000(?) - 12,000 to 9,000 B.P. (Closed contour figures; Continuous lines, etc.); 2) "Serra Branca" style - Dating: 9000-6000 B.P. (Human figures filled with vertical lines; Abundance of adornments and objects, etc.) (Pessis, 2003, 2013; PESSIS et al., 2018). Regarding the specific dating method, Pessis et al. (2018, p. 43) asserts that there is not just one dating method for rock paintings in PNSC. For reliability, it requires "a set of results from different techniques capable of dating the studied painting (...)". For instance, "...when two painted figures are partially overlapping. The analysis of the overlay ensures the precedence order of the figures' execution, allowing for the segregation of graphic overlay layers.

¹⁵ Stylized rock art depiction of a human figure – head, torso, and limbs (MARTIN, 2005).

¹⁶ Acknowledging the brief period assigned to the Serra da Capivara Style.



Figures 3 and 4: Scene detail of the combat scene at the Toca do Nilson Archaeological Site in Boqueirão da Pedra Solta (left) and vectorization (right). Source: Paiva, 2015. (Note: Brightness increased by 20% and contrast by 30% in Word 2013 – Microsoft Office). Vectorization: Luciano de Souza Silva.

Subsequently, three hypotheses were listed after completing the vectorization laboratory work¹⁷:

- 1 – not the vertical continuity of the same anthropomorphic pair, actually comprising four distinct pairs of eight unique anthropomorphs;
- 2 – combat scene with potential "game" aspect – "game" is in quotes because it is difficult to decode this term with precision from such an early period (see footnote no. 7). Thus, it would not be contextualized as "war"¹⁸ (when compared to other images of this theme);
- 3 – In line with the previous one, it would not suggest an increase in violence due to potential local demographic pressure¹⁹. It would thus imply potential mythic-ritualistic aspects.

¹⁷ Also known as "segregation" or "graphic stripping." In summary, a technique using a program or software to convert an image into essential lines and dots, allowing for the separate modification of its elements: "...automatic or manual enhancement of colors (brightness, contrast, saturation, color level adjustment). "Application of color curve effects to highlight paintings and creation of virtual decals using color selection tools (edit, rotate, move, recolor, among other changes)" (SILVA, 2012, p. 65).

¹⁸ Similarly, "war," just as "game," may be subject to the same issue as footnote 7, that is, emic/etic.

¹⁹ Pessis (2003, 2013) links the rise in rock art depictions of violence in PNSC to potential local demographic pressure.

Eliade (2010) teaches us that modern humans have an unceasing unconscious activity that constantly presents them with countless symbols. Each of these signs "[...] carries a specific message, a certain mission to fulfill, aimed at ensuring or restoring the balance of the psyche [...]" (ELIADE, 2010, p. 172), in an attempt to open up to the universe. In this regard, our ancestors might have used rock art as a means to convey their worldview to their social group, other groups in the PNSC region, and thus, to the universe.

By adopting a different perspective to examine the scenes in figures 3 and 4, we can draw a parallel to what we currently see as judo training/a game. Where the sensei/instructor arranges their students in the dojo – combat area – into two lines facing each other, to practice the execution of a specific technique. Similarly, an even closer example might be the ritualized combats conducted during interethnic mortuary rituals known as *Kwaryp*^{20, 21}. They take place in the Xingu Indigenous Land – TIX (MT – Central Brazil), in the area known as Upper Xingu. In these ceremonies, following the hand-to-hand combats of each group's main representatives, there are collective battles with (up to and beyond) four pairs engaged simultaneously (PAIVA, 2021). In this context, it is highlighted the previous ethnoarchaeological work (PAIVA, 2022) where a high-Xingu fighter (along with some family members) personally examined the rock art depicting combat scenes in PNSC. They interpreted these scenes (Figures 3 and 4) as akin to the ancient "Huka-Huka" combat²², still performed by the Upper Xingu tribes today.²³

²⁰ *Kwaryp* is the term established by the Kamayurá ethnic group (Tupi language family) and widely used by researchers, non-indigenous people, and indigenous people from different linguistic families when speaking to each other in Portuguese. The spelling also takes other forms in literature, such as: Quarup, Kwarup, Kuarup etc. (PAIVA; ALBERTI, 2021). Nevertheless, it is not universal. Karib speakers in the Upper Xingu, for instance, call it *Egitsü* (COSTA, 2013).

²¹ While mourning begins after the deceased's passing, marked by a series of rituals, the main combats take place in the ceremonial stage, signifying the end of mourning. Specifically, on the final day, concluding the entire ritual cycle, interethnic male competitions take place (PAIVA; ALBERTI, 2021).

²² It is often said that this nickname arose from fighters imitating the sound of a growling jaguar at the start of matches. This term varies by regional linguistic affiliation (PAIVA, 2021).

²³ The earliest anthropological-historical (textual) sources date back to 1887, with the initial documentation of "Huka-Huka" (STEINEN, 1940). However, if anthropological (particularly regarding oral history and/or ancestral narratives/myths) and archaeological studies are taken into account,

However, as Pesis and Guidon suggest, these rock figures can be interpreted through their symbolic dimension, as part of a visual representation system. Pesis and Guidon regard them as "[...] a source of anthropological information, as they are graphic representations of the social representations of the ethnic groups that produced them" (1992, p. 20).

Pesis' studies (2003; 2013) indicate relational inferences from the rock paintings in PNSC and reflections of contemporary indigenous peoples. Particularly regarding rituals, it is based on existing ethnography. Morales Júnior (2002), in turn, focused on mask rituals in the Upper Xingu for his study. Conversely, Silva's (2012) work focuses on the detailed identification of variations in adornments ("diadems/headdresses"?) and objects, such as atlatls, clubs, etc., within the rock paintings at PNSC.

Moreover, there is an extensive literature (archaeological, ethnological, historical, and ethnohistorical) linking these artifacts to indigenous peoples before and during the colonial encounter. Etchevarne (2009, p. 43) refers to the plethora of indigenous elements depicted in anthropomorphic figures of the Northeast Tradition, including "headdresses, armbands, leg bands, baskets, nets, weapons (clubs, spears, arrows, atlatls), maracas, pouches, loincloths, masks, among others." In modern times, researchers from Brazil and around the globe are linking cave paintings to the field of sports as it is known today (in urbanized contexts and/or so-called "traditional" settings). Authors such as Cotes et al. (2023), Potapov (2014), Paiva et al. (2022) Günaşdı and Karcioğlu (2022) infer scenes involving artistic and acrobatic gymnastics, the origin of traditional Kazakh wrestling, hand-to-hand combats in PNSC rock art, and equestrian sports, respectively.

In the same vein, Souza (2019) understood that these traces reflect a specific socio-environmental context and are also "[...] a way of representing aspects of daily life and the complexity of individuals. [...] it represents the social life of the group, characterized by unique social markers that can be identified in the scenography" (2019, p. 13).

these rituals might be linked to an even earlier period in these peoples' history (HECKENBERGER; FRANCHETTO, 2001).

Thus, rock paintings may provide insights into the groups that inhabited or passed through the PNSC area in the pre-colonial period (MARTIN, 2005), similarly to Günaşdi and Karcioğlu (2022). In the early stages of research, Guidon (1979) wrote an article detailing that among the paintings discovered, some were based on well-defined themes such as "[...] the performance of ceremonies or scenes of combat" (GUIDON, 1979, p. 4). In this context, it is worth noting that while Pessis (2003, 2013) suggests that the painting process of some of these records may have had playful purposes, especially in earlier times, they are predominantly to be understood as a form of human "writing," or rather, social communication.

It is emphasized that these studies helped to foster reflections on cave paintings depicting combat scenes. Furthermore, the steps of these researchers were followed, promptly accessing the sites they had already identified as combat scenes. However, as previously mentioned, the focus was on scenes that suggested characteristics closest to a "game," emphasizing hand-to-hand combat without the use of objects. Thus, although the initial scene count exceeded ten, our approach narrowed it down to just four.

It is worth noting that this number is extremely low, given that there are over 900 sites with rock art in the PNSC. Archaeologists did not overlook this fact. Bucu noted that "[...] themes of violence, although in the minority, are the most striking..." (SILVA, 2012, p. 434). Silva (2012) asserted that in his research he "[...] encountered the issue of the limited number of sites [...]" regarding the subject, and: "The element is considered minimally representative within the graphic marks, given the high number and variety of graphics in the Serra da Capivara region (p. 59)".

The following is a continuation²⁴ of the fraction of the initial corpus found (Figures 5-12)²⁵, including vectorization and additional contextualization.

²⁴ As it also includes Figures 3 and 4, previously shown.

²⁵ For aesthetic reasons, archaeological scales were not included in these images. However, in the analyses themselves, scaled images were used (in these instances, provided by FUMDHAM). Thus, although the anthropomorphs varied, they were about 3-6cm at the archaeological sites Toca da Extrema 2 and Toca do João Arsená. In Toca da Fumaça 1 and Toca do Nilson do Boqueirão da Pedra Solta, approximately 7-15cm were found.



Figures 5 and 6: Close-up of hand-to-hand combat at Toca da Fumaça I Archaeological Site (left) (Note: contrast enhanced by 35% in Word 2013 – Microsoft Office) and vectorization (right). Source: Paiva, 2015. Vectorization: Nilmon Filho.

Figure 5 depicts a rock art located at the Toca da Fumaça I archaeological site (also known as Toca da Roça at Sítio da Pedra Furada I) within the Boqueirão da Pedra Furada Circuit (Front da Cuesta). Regarding the depicted motor action, as we will see, it appears to be a standard record in the PNSC for representing hand-to-hand combat without handheld objects ("weapons"). One anthropomorphic figure exerts control/is dominant, completely suspending the other. These two anthropomorphic figures are the solefighters among other records at this site, clearly indicating the absence of a group combat scene. Furthermore, the graphic style²⁶ suggests a minimum dating of 9,000 B.P. This site, located in the municipality of Coronel José Dias near the park, was recorded in 1973.

Figure 7 details a wide scene of hand-to-hand combat with "weapons," while the excerpt for Figure 9 depicts an unarmed hand-to-hand combat from the same wide scene. Both were painted at the Toca da Extrema II archaeological site, in the Serra Branca Circuit (Vale da Serra Branca). Registered in 1973, it is located in the

²⁶ Simple, unfilled figures implying body paint, unadorned, with rounded lines, small, fully filled, and predominantly red, are attributed to the Serra da Capivara style (PESSIS, 2003, 2013).

municipality of Brejo do Piauí. This armed combat appears to be the focal point of the depicted collective scene of "violence," where a total of 19 anthropomorphic figures make up the theme. Number confirmed post-vectorization (Figure 8). Pessis (2003; 2013) acknowledges a broad combat scene in the Serra Branca Style, which can be dated to at least 6,000 BP²⁷.

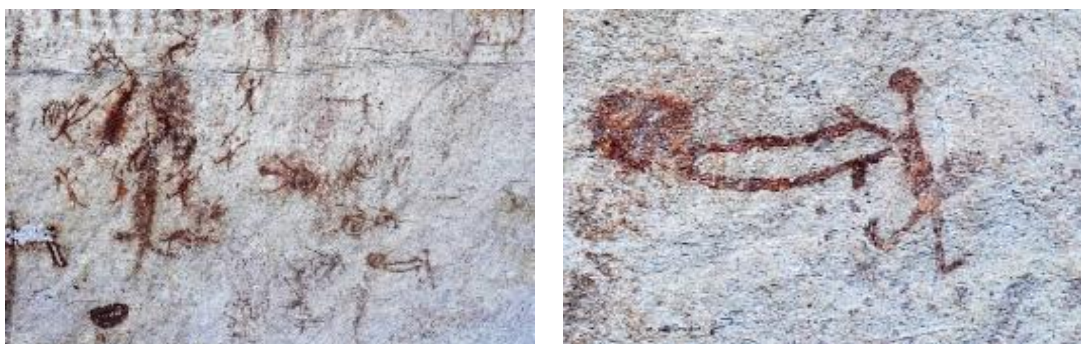


Figures 7, 8, and 9: (Wide) combat scene at Toca da Extrema II Archaeological Site (top left), vectorization (top right), and scene detail (bottom center) featuring two unarmed anthropomorphs fighting unarmed. Source: Paiva, 2015 (Note: contrast increased by 50% in Word 2013 – Microsoft Office). Vectorization: Luciano de Souza Silva.

Figure 10, and the detail from Figure 12, depict specific instances of potential hand-to-hand combat observed at the Toca do João Arsená archaeological site, situated in the Serra Branca Circuit, recorded in 1975, located in the municipality of João Costa. Despite being set in a "collective violence" scene with 29 anthropomorphs confirmed through vectorization (Figure 11), it is different compared to depictions from other sites (e.g.: Figures 5 and 6), due to the presumed

²⁷Acknowledging the minimum dated period for the Serra Branca Style.

anthropomorph being hung by the arms instead of the head (SOUZA, 2009). Additionally, the rest of the body contour is missing. Silva (2012) suggested that this record might be an intrusion among other figures; however, vectorization work revealed "[...] a continuity of line and uniformity in the color of the figures" (SILVA, 2012, p. 76). However, graphical analyses (SOUZA, 2009; SILVA, 2012) revealed similarities with the scene at the Toca da Extrema II site (Figure 7). Based on the combat shown in Figure 10, the presentation plan for the "collective violence" scene was referenced as a whole. Pessis et al. (2018) confirms the described wide combat scene within the Serra Branca Style context, dated to at least 6,000 BP.²⁸



Figures 10, 11, and 12: (Wide) combat scene at João Arsená Archaeological Site (top left), vectorization (top right), and scene detail (bottom center) showing two anthropomorphs fighting unarmed. Source: Paiva, 2015. (Note: Brightness increased by 30% and contrast by 50% in Word 2013 – Microsoft Office). Vectorization: Luciano de Souza Silva.

²⁸Acknowledging the minimum dated period for the Serra Branca Style.

It should be noted that the scenes from the Toca da Extrema II and Toca do João Arsená sites have been interpreted by some researchers as depicting "collective violence" or "war." However, the figures engaged in hand-to-hand combat (unarmed) from these two sites can be a beacon for inferences about this graphic pattern (PAIVA, 2018). That is, perhaps they were painted on purpose to differentiate themselves from others that could confuse communication, such as a dance. In these two places, this model refers to the presentation plan of the wider scene of "collective violence" or "war". Thus, surrounding the pair engaged in unarmed hand-to-hand combat, there are other anthropomorphic figures richly adorned with feathered headgear (diadem? / headdress?), carrying various objects (both martial and non-martial) and hurling others (e.g., using launchers). In these two scenes, some anthropomorphic figures are depicted being hit by objects.

The fact that, in actual hand-to-hand combat, motor actions where the opponent is lifted by the arms and/or head, as shown in these figures, are technically ineffective, reinforces these considerations. Thus, this representation method might have been selected over another that could cause uncertainty in the media. However, it is emphasized that the (de)coding of these representations with their respective meanings belonged to those author groups in a very distant past and are no longer accessible.

Despite this, it is worth noting that the records from Toca da Fumaça I and Toca do Nílson sites were not assimilated by scientists in the same way as the previous two. The literature lacks a detailed analysis of the two figures fighting in Toca da Fumaça I. However, regarding the scene at Toca do Nílson do Boqueirão da Pedra Solta, Justamand (2015, p. 64) described it as a "Scene of violence." However, Buco referred to it as a "Playful Game" (BUCO, 2012, p. 451) or "Duel" (IBIDEM, p. 481), symbolizing conflict situations. Moreover, this text does not categorize "[...]" as scenes of violence since we chose to view this art as a depiction of various ritual activities and types of festivals, where games, simulating conflict situations, are part of the activities, a kind of training" (BUCO, 2012, p. 480). Cristiane Buco's reasoning

supports the analogy²⁹ previously made in this text between the scenes in figures 3 and 4 and either a judo training/match or the Upper Xingu's "Huka-Huka".

Additionally, it should be noted that it is characterized by mixed motor actions, that is, including percussion techniques (or "striking" – Figure 4, pair of anthropomorphs No. 2) and control techniques (or "grasping" – Figure 4, pairs Nos. 1, 3, and 4).

It is emphasized that, upon further analysis of the recurrence of graphic patterns in unarmed hand-to-hand combat scenes in the PNSC, a pictorial repetition of dominance or "grappling" actions was observed, but not of striking (Paiva, 2018). In other words, it recurs³⁰ in various places (see Figure 13), anthropomorphic figures in similar poses³¹ to pair No. 4 (Figure 4), that is, marking territory with the arms and/or head of the antagonist, in suspension. However, in both archaeological literature and field research of the current study at PNSC (2015 and 2016), only this scene (Figure 3) featuring mixed motor actions³² has been identified.

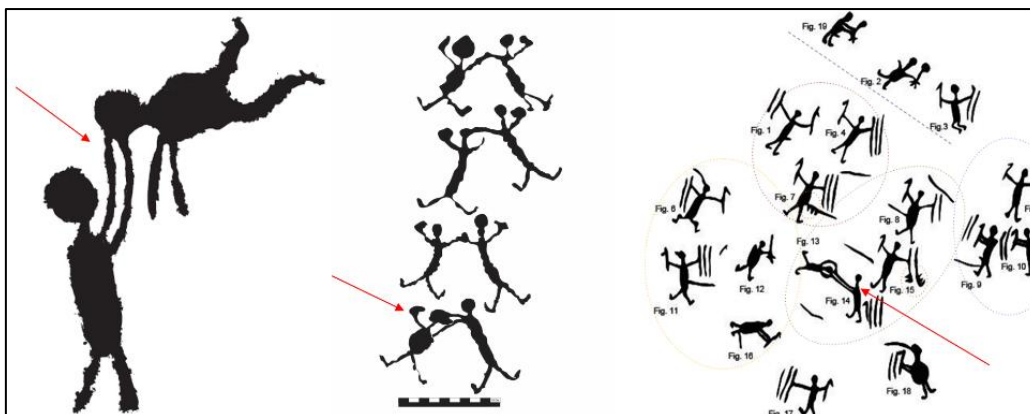


Figure 13: Vectorization of combat scenes at archaeological sites (left to right): Toca da Fumaça 1, Toca do Nilson do Boqueirão da Pedra Solta, and Toca da Extrema II. The red arrows point to the figures and (re)appearances related to the pattern of unarmed hand-to-hand combat (i.e., control or grip on the opponent's head). Vectorizations: Nilmon Filho (Toca da Fumaça 1); Luciano de Souza Silva (Toca do Nilson do Boqueirão da Pedra Solta/Toca da Extrema II).

²⁹ It is important to note that in certain contexts, relying solely on analogies for explanation can be risky. Thus, these comparisons serve merely to contextualize and illustrate, not to adopt central explanations (and deterministic historical continuities) for these phenomena. It should be noted that the associations made by contemporary indigenous fighters could be better clarified through mnemonic devices (cf. Paiva, 2021).

³⁰ Boas (2017, p. 118) offers a potential explanation in this regard: Similar phenomena may occur due to historical connections or independently arise from the human mind's structural identity.

³¹ Pessis (2013, p. 168) suggests that "the graphic presentation system evolves very slowly compared to meanings."

³²This also does not rule out the possibility of other undiscovered ones in the PNSC.

Moreover, it is important to highlight González-Ruibal's (2003) statement regarding the selection and use of sites for creating rock paintings, grounded in ethnoarchaeological literature. For the author, they would serve to preserve on the medium (or through it) the supernatural power/strength present and/or invoked. For González-Ruibal, in dialogue with Levi-Strauss:

One of the uses of painting is to participate in healing rituals. [...] Levi-Strauss (1995) discusses shamanic healing: "it would involve inducing an organic transformation, essentially a structural reorganization, by having the patient intensely experience a myth—whether pre-existing or created—and whose structure would be analogous, at the level of the unconscious psyche, to that which is desired to form in the body" (GONZÁLEZ-RUIBAL, 2003, p. 148-149).

Once again, we turn to Eliade (2010) to clarify that, in a state of exhaustion, symbols continuously send us messages aiming to ensure psychological balance. Furthermore, González-Ruibal argues that one cannot attempt to understand the meanings of rock art without acknowledging the significance of myth in prehistoric (or "premodern") societies. Thus, "[...] the myth is lived, it defines the boundaries of the world experience. The ceremonies of the San people, for instance, during the creation of rock art, were times of materialization and expression of the myth that the community is deeply immersed in" (GONZÁLEZ-RUIBAL, 2003, pp. 148-149) (Emphasis added).

Eliade (2010) asserts that the role of the "[...] myth is thus to 'establish' the exemplary models for all rites and significant human activities: eating, sexuality, work, education, etc. [...]" (p. 87). Thus, human behavior should be judicious, as "[...] man emulates the exemplary gestures of the gods, replicating their deeds, whether it is a basic physiological function like eating, or a social, economic, cultural, military activity, etc." (ELIADE, 2010, p. 87). Here, similarly, we can deduce that the combats on PNSC's rocks might have been either combat training or simply psyche balancing.

The paintings at the numerous sites in the PA, according to the authors of this article, support Tim Ingold's concept of the lifeline (2007; 2015), where our ancestors used the rocks of the PNSC as a diary of social relations undertaken in the past to open windows to the Universe.

Conclusions

This study revealed that there is no single graphic pattern for the depictions of unarmed hand-to-hand combat in the investigated Protected Area. However, it seems common to depict one of the anthropomorphs performing a motor action of grasping (or dominating), holding/sustaining their antagonist by the head. Thus, revisiting the previously presented hypotheses in the discussed grappling stages, it can be suggested that they support the notion of doubles play potentially devoid of violence, yet still characterized as a form of entertainment/leisure, or even reasonable preparation for contests.

Moreover, the combats might have been methods the earliest inhabitants of PNSC-PI adopted to stay ready for their daily challenges. Challenges associated with hunting, fishing, or conflicts with rival groups. On the other, it may have socially relevant and desirable aspects for members of those groups, especially linked to ceremonial circumstances. However, these considerations hint at likely concrete situations. However, it is important to note that they may also reference codes from indigenous narratives (or "myths") whose meanings elude our decoding.

The epistemology of Physical Education, concerning hand-to-hand combat, is interested in the fact that at least two records (Toca da Fumaça 1 and Toca do Nílson) yield interpretations towards "play" rather than "violence" or "war," possibly suggesting "playfulness," as emphasized from time immemorial. While "playfulness" transcended the state of ritualized combats – where there is no need/intention to extend the conflict to the death of one of the participants. Examples that can still be followed and felt today. Staying prepared for daily activities through physical conditioning is recommended for everyone across various human activities. However, the likelihood that the (re)meanings of hand-to-hand combats have changed since earlier periods is substantial. As the saying goes, "the only constant is change?" Regardless of uses, contexts, rules, variations, meanings, and groups/peoples/ethnicities elsewhere, **the motor actions constituting hand-to-hand combats have persisted.** In this same key without necessarily intending the opponent's death (PAIVA, 2021).

From another perspective, as guided by Caillois (1990), the analyzed images may evoke the concept of play as a recreational/fun act,³³ in terms of both the symbolic potential of play flowing into art, and as a form of preparation for toil or an allegorical social challenge activity.

Ailton Krenak explains that through singing, dancing, and walking over fire, we continue in the footsteps of our ancestors (2022) Rock carvings are evidence of this. Thus, invoking our ancestry, as attempted here, is to educate, particularly the children who carry this ancestry. Additionally, the author references Pope Francis's remarks on the importance of reclaiming our ancestral roots (cf. 2022, p. 95-112). As it was sought in this writing. Humanity's networks and connections began with contributions to the collective unconscious made by the first users of cave art. Creating an inexhaustible information ocean that connects to our current terminals, with the surrounding era reflected in these scenes (KRENAK, 2020).

Thus, the text concludes by recalling another note from Krenak on the meaning of his name: a legacy from ancestors, from memories of origin, which, perhaps, the rock paintings represent the planet's collective memory (KRENAK, 2019), as the author mentions, since they are found across all continents. Offering insights into ancestry and its connections with our current imperatives, meanings, and desires. Therefore, the future is ancestral, and the rock paintings, particularly those in the Piauí park, represent a diary of humanity open to the universe, showcasing our inclination for play and the playful spirit of the human species. A journal of past societies or simply the timeline of these groups distant from the present time.

Revisiting the opening epigraph of this study, the combat/game scenes employed are not organic/physiological phenomena or taboos, but rather depict the dimensions of play intertwined with the potential fabric of the sacred.

³³ Bartra (2014, p. 197) interestingly links this claim by stating, "We can recognize that playful activity is closely connected to neural circuits. (...) it is a tendency to fill a void, to complete through (...) play what cannot be achieved by innate instinctual impulses present in the brain networks."

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