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METHODOLOGICAL APPROACHES

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METHODOLOGICAL APPROACHES
IN THE RESEARCH PROCESSES
OF SOUTH AMERICAN ROCK ART

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It is difficult to present our views on South American rock art at a Conference gathering of specialists in rock art. Knowledge on the subject is easily obtainable. It only requires buying some art book published in Europe. Logically, the title of the book should be "Primitive Art" And in one of the last chapters you would find South America and read that its rock art has various styles of great geographical dispersion.

The names of these styles will sometimes change. But in general there is a "Hunters' Style", a "Nomadic Peoples' Style" another "Abstract Style", and occasionally an "Andean Style" - I have even read there is an "X-Ray Style", similar to the classic Australian Style, of which I nevertheless know of no site in all America. These styles moreover seem to be easily perceptible. They are to be found in isolated key sites. The main designs are highlighted there. And their antiquity is generally determined on the basis of ethnographic relationships.

The whole subject of the rock art of South America is thereby explained for the readers of these books, in six or seven pages. The great majority of books dealing with the history of the continent devote even less pages to it. The subject is apparently so simple that its knowledge does not present any problems, except for some 500 people.

These people call themselves rock art researchers. They are gathered in formal associations (such as C.I.A.R.U., S.I.A.R.B. or G.I.P.R.I.) or in archaeological scientific societies, heritage preservation agencies, museums or universities. Many of them have undergone university studies or trained as professionals, but many are non-professionals.
They are surprised and disconcerted because, curiously enough, in the territory they investigate — called South America — they know publications citing more than 4,000 sites. And because they still have not managed to discover who the hunters were who (according to those art books) were capable of engraving or painting in the same style in such diverse regions as a tropical forest; the driest desert in the world; mountain ranges over 6,000 meters; savannas, coastal areas and the border of the Antarctic Polar Circle. They do not know how to define a "Nomad Style", in a continent where, since at least 18,000 years ago, everybody walks and in which few areas are urbanized — and this only during the last 3,000 years.

Worse still, such is the diversity of forms of expression and designs, scenes and subjects that very few of them dare to think today of styles with great geographical extension.

I therefore think we have found a theme for this communication.

I am going to talk about these surprised and disconcerted people; of how they have reached this situation and the problems they really face in the long march of the research process. How, after long hours of work during the last 30 years they, curiously do not find the primitive art of South America.

CRITICAL VIEWS

Parting from the survey of publications in the area we find an aspect of major conflict. It is touched upon when some sort of general analysis of South American rock art is attempted. The enormous difference in the methodological positions used in the analysis procedures of the designs and their prior synthesis is forcefully revealed.

The diversity of procedures is so great that there are practically no parameters permitting continuity in a methodological sequence of various proposals posited by researchers.

This aspect was discussed by Dubelaar in his work, the most complete published to date on petroglyphs in this continent. After decades of research he opts for one solution: "A geographical approach, more specifically: a geographical classification based on motif distribution, might yield possibilities of defining more closely the position of petroglyphs in the prehistory of South America" (1986:160). Other authors have also chosen geographical distribution of some analytic unit (type) as a basis for the existence of certain units of synthesis — styles — in areas of South America. Among them we remember the hands, footprints, deer, anthropomorphic figures, curved lines etc. The existence of scenes (i.e. a group or design considered as a perceptible unit) is also postulated as defining a great thematic unity for large areas of South America.

We would like to indicate that none of these proposals can be criticised if we part from the basis that they merely intend to function as classification units, ways of describing rock art. But when this first level of research is surpassed, and we begin
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to grant a cultural value to these descriptions the problem changes radically. Because the establishment of styles in an area on the basis of a same pattern implies the attempt to establish a cultural execution unit. This in turn implies that these units receive a semantic content – semas. Here our position becomes critical for two reasons.

The first is that, in the current state of rock art research semas are not necessarily in the chosen unit, but an attribution given by the investigator. Thus, the problem of assessing the cultural value of styles (if the result from the culture in general, of a limited subgroup or of specific activities within society, etc.) is not in the objects but rather in the persons. In order to propose this semantic value to objects we must first correlate theoretical frames of reference and methodological options. It is likewise necessary to carry out thorough archaeological and ethnomhistoric research and include a satisfactory number of cases. We understand the magical and even hallucinatory character of the San art: it is a good example of an approach which allows well founded work (Lewis Williams, 1986; Lee, 1991). But when these studies extend their conclusions geographically beyond the area in which they are valid, they likewise deserve criticism (Lewis-Williams & Dowson, 1988; Consens, 1988).

The second reason is that the design might be the only material support of significance is all too often forgotten. I repeat this in order to remove any doubts on the matter; a single material sign may have different semas for the same community. The modification of the environment where the design is made (different ceremony or rite), the character of the function it plays in society (the aim assigned by the executors) or the fact that the receptor belongs to a different social level than the executors suffices to grant different or even opposite meanings.

Signs are not obvious in their significance. They may, of course be attributed by some to mirror reality. But they may simultaneously behave as inverted (Consens, 1991) or distorted mirrors (Davis, 1991). When we make this last assumption we are not implying this is an anomaly of the society which made it. No, it is part of its own social structure. It works in that way. Adjectives regarding their 'logical' behaviour are ethic judgements (belonging to our culture).

When a researcher proposes the existence of a style on the basis of a unique design form, he is often forgetting many things about his professional capacity as an anthropologist, or simplifying all that culture implies by forcing it to be contained in five letters – S.T.Y.L.E.

Ironically the so-called "unique design" selected does not really exist. It is only the product of topological simplification at the level of data analysis. There is another still more common mistake; selection of only the notorious or aesthetic designs or the only ones he has been able to find in the bibliography. This is one of the most important aspects to bear in mind when criticising styles of great geographical dispersion: they have no context – be it archaeological, in
reference to their rock art matrix, or to the symbolic processes to which they are ascribed.

Let us take as an example human footprints. In an analysis of attributes and features of types of engravings carried out in San Juan (Argentina) two geographical areas were detected where the footprints with four toes represented 63 and 79% of the total. These peculiar prints must be understood to differ widely from anatomically normal feet (with five toes). We must thus question the inclusion of these different prints in a single category. But problems do not end here. The length analysis in these two different areas determined another interesting observation. Sixty-seven percent measured between 7 and 11 cm in one area, and also 67% measured between 11 and 16 centimetres in the other. The probability of this occurrence cannot be accounted for by change. This forces us to make different readings - at least methodologically - of this unit.

We therefore ask ourselves: if a small area shows diversity in a single design form, and if we acknowledge that this diversity is intimately related to specific geographical areas, is it possible to avoid these real cultural variations stating there is a single descriptive type called the 'human foot'?

We have decided this cannot be the case. That in the example presented the human foot is really carrying two typological units "acknowledged and significant within these sites of reference, in spite of the fact that both units are isomorphic" (Consens et al, 1991). This is one of the problems presented by synthesis units in rock art research in South America.

THEORETICAL BASES FOR THE SYNTHESIS UNITS

If we go one step further from the readings made by some investigators hunting through publications in the search for designs similar to those they discovered in their own area, with the aim of extending their proposals geographically, we will face a thankless and trying task. We might for example, take stock of the theoretical bases for the units of synthesis proposed in many countries. This new analysis would highlight interesting differences. They are not only due to the technical changes continuously incorporated by archaeology, but also reflect the theoretical frames of reference and methodological choices which contribute to make them a finished scientific product, reflection of the time.

ARGENTINA

One of the most important style proposals in Argentina, and simultaneously one of the better founded in South America at the time it was presented by Menghin, introduced styles based on the morphology of notorious designs and their associations (Menghin, 1957).

In the north-eastern region, Lorandi (1966) proposed a set of styles based on the adoption of a typology and its prior analysis by Heizer et al. statistical analysis (1969, 1962).
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Gonzalez reformulated this synthesis introducing cultural elements picked from archaeological material (1977).

Years later and again in Patagonia, Graden proposed five "stylistic groups" on the basis of careful excavations carried out with unquestionable relationships between sediments and paintings (Graden et al., 1979). More recently he viewed the existence of this great area with four "stylistic tendencies" as part of an "artistic process" evolving from representation to abstraction (1988).

Aschero, in the north, later continued the careful excavation work proposing other stylistic groups based on superpositions, morphology, spatial association and the discrimination of tonal sets (1985:419). These investigators introduce the concept of 'mobility circuit" in order to explain the differences in designs found in these sites by means of a combination of environmental subsistence and settlement subsets.

In the Central Sierras we have two contributions by Berberian and Nielsen in Cordoba Province, where, apart from establishing the typological analysis of designs and relating them with archaeological excavations, they added a "significant correlation with linguistic divisions" (1985:27) as a new contribution to the synthesis units (called - "groups"). In the neighbouring San Luis Province, Consens proposed four painting and five engraving styles. His methodology analyses a data base based on systematic searches, complete recordings and specialised photography by which a typology was constructed. In his proposal (1986) Consens uses computerised probabilistic analysis to account for the different types, their geographical localisation, painting colour, engraving techniques, contextual relationships in each panel, design size, superpositions and correlation strengths.

There are three syntheses for Pampa Rock Art. Graden proposed the existence of two "horizons" (1980) on the basis of excavations and correlations, while Consens (1985a) proposed the existence of "stylistic tendencies" based on morphological analysis, groups and serial analysis. In the third synthesis, Casamiquela proposed the establishment of relationships between rock art, ethnographic information and linguistic analysis (1960). He later analysed rock art in Patagonia describing the motives pertaining to the different styles under two major categories: zoomorphic and geometrical (1981:10).

BOLIVIA

The first synthesis in Bolivian rock art includes preliminary and chronological formulation and appeared only recently. It is an important effort and supercedes the previous attempts of establishing chronometric ties between painting and ceramic sites, to attempt an assessment of 200 sites. Strecker argues for the presence of a "paleoindian horizon". While acknowledging the existence of diverse regional styles (1987:15) in the pre-Inca period, he chooses to establish three periods, totally defined by their history and chronology.
Pia speaks of two "great periods" with various stylistic trends in eastern region painting. Her approach is evolutionary, establishing morphological design changes by analysing the body positionings, clothing, accessories and interpreting the mythical significance of the differences scenes (1988).
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BRAZIL

Studies which synthesise have abounded here where published sites total more than 1,000 and where specialised teams are fully devoted to rock art research in very different areas. Thirty-seven styles, 19 traditions, 3 great traditions, 6 sub-traditions, 8 varieties, 13 phases, 7 facies, 8 categories, some "stylistic groups", some "stylistic units" and also a "stylistic complex" had been detected in Brazil by 1988 (Consens & Seda, 1990:33).

There are more than one hundred synthesises units in Brazil. This is a reality. A different reality arises when analysing the procedures and concepts used for their formulation from field work and survey techniques and from data management and sustaining analogies. The process is so dynamic that the same researcher may even modify his way of naming the composition of units and the very concepts he has used in a single area.

This panorama may seem surprising but it is still more stimulating to discover the methodological scaffolding used to support these synthesis proposals. Researchers begin using terms such as tradition, style and phase according to the classical definitions coined by Willey, Phillips and Kroeber, with slight technical modifications. This is attained by the introduction of Pronapa (National Programme for Archaeological Research) assessed by Meggers and Evans from the Smithsonian Institute (Chmyz, 1966). But, after starting with this common training in research, the terms are redefined, transformed. Like a Kaleidoscope: or like in the magnificent optic effects of "Star Wars".

Let us take the term "tradition" for example. Willey, following critics led by Rouse, redefines it as "... a temporal continuity by persistent configurations in simple technologies..." (1958:37). PRONAPA makes an extreme simplification to adapt it to Brazilian reality. For this programme, tradition is "a group of elements or techniques ... with cultural persistence" (Chmyz, 1966:7). The first investigator to use the definition as a result of his field work states that "tradition" is used to obtain "information from different ethnic groups" (1970). That is, that the technical and chronological determination was transformed into cultural and social differentiation.

Guidon, who began by considering tradition as the "cultural traces obtained by record analysis" (1984:348), later states that it is obtained by "relative quantification of the classes of graphisms..." (1980b:6). Very close to the area where she works, Aguilar holds that this same tradition must be defined "by the themes and forms used in its interpretation" (1982:63). Aguilar modifies this definition, stating that tradition "is the expression of a magic-religious universe..." (1987:42). Martin, working in the same area, views tradition and style as "very similar in intention and contents" (1985:41).

Prous, (in central Brazil) is continually modifying this and other definitions and increasingly insists in the chronological
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If, instead of analysing the synthesis units, we analysed the survey techniques, we would not be so much surprised by their divergence - but rather by the antithesis of the proposals used. Some researchers attempt to obtain units - types - (Mentz, 1974; Schmitz & Brüche, 1982). Others prioritise sets of types, themes or scenes (Aguíar, 1987). There are those that do not even use types or geometric designs (Guidon, 1983:7-11).

Some researchers require the total survey of the panel (Guidon, 1963; Prous, 1983; Pessis, 1984; Consens, 1985b). Others still hold that "empty spaces do not have a meaning" in these sites (Aguíar, 1987). In the north east the scene is currently the basic unit for recognising traditions, styles and varieties. But other researchers refer to important difficulties in accepting it as a synthesis unit: due to formal determination (Monzon, 1984), diachronic (Consens, 1984:366), compositional (Seda, 1984:402), and also construction problems (Consens, 1985b:39).

The problem of terminology and its usage become so confusing and parallelising that it forces the introduction of the new term "category" to avoid "giving new names of phase and style" (Castellanos, 1984:39).

Some researchers voice their disappointment. According to Guidon (1983:10), "there is no satisfactory proposition for classifying nor any acceptable form of describing". While Carvalho and Seda state that "the impossibility of integration (of data and traditions) is real" (1982:6).

We disagree. All the researchers mentioned are concerned with the creation of coherent systems and make interesting methodological proposals.

CHILE

Another of the privileged countries in South America as far as rock art is concerned where spectacular sites with paintings, petroglyphs, painted engravings and geoglyphs have been met by important scientific research studies during long years. The result is an extensive bibliography, an important list of sites and continuity in the work.

Initially there was a descriptive stage followed by studies based on ethnographic analogies. The work carried out by Nunez later became particularly relevant when he introduced typology and statistical analysis in sites in Northern Chile (1970) to explain caravan traffic. The work carried out by Heizer et al (1960, 1962) served to inspire him. The same source was used by Lorandi in the Argentine area on the other side of the Andes and, curiously enough, neither knew the extent of the others' work.

Later we find a complete synthesis of Chilean rock art. Nine styles related to geographic and political areas on the basis of a morphological analysis of designs and themes (isochronous sets of designs) (Mostny & Niemeyer, 1983). There are also area studies. In the northern Chico Castillo proposes two styles in his morphological analysis of rock art assigned
ethnographically to the Molle culture (1985). In the case of the frozen southern extreme of the continent, close to the Strait of Magellan, Massone proposes the existence of two stylistic modalities in painting using numerical and statistical criteria (1985). At the other extreme, i.e. the desrtic zone in the north close to the border with Bolivia and Peru, we find another sequence of four phases embracing 4000 years, based on panels and designs which "may provide chronological and cultural information" (Berenguer et al., 1985:90).

GUYANA, SURINAM AND FRENCH GUYANA

Several authors have worked on the subject of rock art with a special interest in petroglyphs. Poonai in Guyana proposes three types on the basis of the techniques used in their execution (1978:14). Williams extends the classifications to the West Indies (1978). Dubelaar in Surinam modifies the previous classification by Thurn using anthropomorphic feature analysis (1976). Dubelaar has made a detailed analysis of all this area (1986).

PARAGUAY

Scientific studies of rock art have only recently begun and are limited to a few sites (Pallestrina & Perass, 1984).

PERU

The important concepts of synthesis of classic archaeological units of style, horizon, tradition and phase were created in this country. But the weight of its spectacular prehistory with cities, temples, buildings and impressive fortresses is so great that research in rock art has become crushed. Studies such as those carried out in Toquepala cave with paintings and sediment dating, although very important in the prehistoric sequence of South America, are no more than a punctual sample (Muelle, 1969). The hundreds of sites with petroglyphs recorded in the mammoth work carried out by Nunez Gimenez (1985) are as amazing as the great number of sites found in the South of the country (1988). Nevertheless, only one synthesis for rock art proposed on the basis of analogies with pottery, textiles, artistic furniture and cultural styles and comprising 14 styles including painting, engraving and geoglyphs is known.

URUGUAY

In a small territory where only 50 sites with rock art have been identified, syntheses tend to be weak. Morphological variations are so subtle that it is necessary to create new recording and photographic techniques. These include the use of infra-red film (by reflection and refraction polarisation, falsifying of colours by spectral sliding, monochromatic lighting (Consens, 1979; Consens & Bespali, 1980), as well as the use of laser spectrophotometry (Consens & Bespali, 1977). There is a synthesis implying the existence of five styles (Consens, 1985b). It was created with the aim of popularising
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rock art within a programme of archaeological activities. The synthesis is founded on morphology and superpositions. The scarcity of sites makes it difficult to analyse the sets and, in turn, decreases the possibility of establishing sound assertions.

VENEZUELA, COLOMBIA AND ECUADOR

Research in rock art in these countries has generally centred on description. Studies have been undertaken in geographically limited areas due to the general lack of support given to this kind of research. Important data collection has been carried out in Venezuela by Tavera-Acosta (1965). Studies made by Sujo Volsky (1975, 1976) with technical and methodological contributions to order the research task stand out. In addition they provided a broad view of rock art in this country.

In Colombia Munoz reports a great number of sites and also the different viewpoints for the study of rock art in spite of the lack of "academic institutions" for professional training (1986:301). Investigators have adopted linguistic, aesthetic, geographical, environmental, altitude and ethnographic approaches. This latter source has been picked by Granda Paz to explain the different designs in the Northern Andes (1987). One of the most important studies recreating the interpretation and cognitive processes in rock art is depicted in Reichel-Dolmatoff’s publication. He speaks of phoshoric forms produced in human vision during altered states of consciousness. His fieldwork is a unique source in the study of this phenomenon in aboriginal societies (1985:150).

In Equador, the work of Porras deserves mentioning due to its continuity and because it produced a synthesis for the eastern area. He speaks of four engraving styles based on the identification of the designs he traces back to the mythological creatures of the aboriginal pantheon (1985:150).

INTERNAL VIEW

During the last 40 years only three researchers have tried to provide a general survey of rock art in South America: Rouse (1949), Schobinger (1976) and Linares Malaga (1986). The comments in relation to the two first attempts were already made by Dubelaar: "we cannot agree with this division as concrete evidence for rejecting it can be found..." (1986:103). The study of Linares is still more confusing due to the lack of bibliography. It seems obvious that the possibility of concretely applying any sort of generic classification will hardly be operative with the current state of knowledge.

Our position is not related to the validity of these gigantic classifications, but rather consists in questioning if they can be made at all. From a scientific standpoint (controllable and contrastable) these classifications cannot claim to have any degree of reality.

This is not the only aspect we wish to highlight in this summary of the great lines of research. There are several ways of tackling the subject. For example, we must not forget the
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greatly accelerated rate of change. This produces situations of discontinuity, of rupture in lines of investigation which inevitably trap researchers. A readjustment of archaeology itself is also occurring. The new theoretical trends: systematic, post-processualist, neo-structuralist or historic and materialistic positions are highly critical of previous views, basically universalist and evolutionary views. These new schools of thought have practically questioned all previously used methodology. Younger generations of archaeologists are highly influenced by this harsh criticism. This is not negative; it only implies that they face the realities of research with multiple structures and the urgent need to operate with multidisciplinary contributions that are often totally foreign to traditional archaeology. Several cases of synthesis in the examples given reflect this position.

Rock art has apparently benefitted from this great theoretical opening. It is now part of many university courses. There are symposia for specialists in most university centres. There are even PhD degrees in the speciality. Such a situation was hardly imaginable a few years ago. But the great conceptual step has not yet been taken. Acknowledgement of the fact must be made that rock art is only a relic of the activities of the systemic matrix. That the object under study must be the ideological and symbolic system which produces the different expressions of culture. That cognitive processes are at the basis of the forms of representation of human groups (Consens, 1991a).

That is why we may still expect the continuation of these phenomenological approaches to rock art. The object and subject under study are often not clearly delimited. Classification of rock art is really a means of trying to stop, freeze, a changing research process. The latter is the product of technical and professional lack of knowledge and ignorance and also is due to human weakness, placing personal interests above scientific interests. This is not a critique of researchers, but a critique of the system in which they are immersed.

We also acknowledge certain deficiencies. While recording and documentation techniques have acquired a satisfactory level, unit analysis methods are more erratic, and confusing. The most common confusion is between observational and cultural units. Several researchers mix both units in their studies in a naive way. We also accept that some researchers build their schemes on the basis of interpretative units which could only emerge methodologically as an end result of the process. In this case we have the problem of operating with units of semantic contents at the same level and with the same properties as descriptive units. The result is both natural and obvious, but cannot be understood.

Terminology is the most surprising aspect of synthesis units in South America. Phases, styles, traditions, stylistic tendencies, facies, horizons, modalities, varieties and stylistic complexes are some of the names containing (or that should
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contain) units synthesising the knowledge recovered at the previous levels of the investigation process.

Is this really the case? Monzon is of the opinion that "le probleme de la terminologie est l'un des plus complexes a resoudre car chaque chercheur utilise generalement son propre vocabulaire et celui de son ecole, souvent sans preciser la signification exacte acordee aux mots employes" (1987:20). This is true, but we must also accept that some of the problems in South America are theoretical (and this is healthy for the scientific structure). Others emerge from the use of adequate methodologies for these frames, but implemented by some researchers to operate in such a personal way, or described so ambiguously, that they hinder communication and evaluation. This does not mean that they are operatively inadequate, but that used in this way they generate scientific intercommunication. We also think that there is an anthropological game in research whereby, giving names, researchers (in the same way as many aborigines) think they manage to know the named object. But this is not scientific: it is only human nature (Consens, 1988a:264; 1988b:71; 1989b:10).

RETURNING TO THE BEGINNING

In the first page we said that we were going to refer to a group of "surprised and disconcerted" people. Now we are at the last page, we could say that these might further be divided into two groups: researchers in South American rock art, and those who have read this paper.

This is due to the extreme ease whereby the object under study is simplified by means of some extremely broad and superficial approaches carried out from the outside.

Nevertheless Bednarik, during a recent visit to South America, said that it is necessary to introduce researchers from abroad: "research traditions have an inborn tendency to turn into closed systems which must be resisted by means of a continuous assessment of the aims, priorities and values assigned to investigation, particularly involving researchers from abroad (the italics are ours) (1988:22).

This view apparently reflects a position that contrasts with ours. It is not really the case.

Each is referring to a different class of external agent. In our case we speak of those who through their publications, become the spokesmen of an extinct anthropological Euro-ethnocentrism. But we are in agreement with Bednarik as to the importance of the epistemological requirement of having agents who do not belong to the research process being developed.

For those reading this paper, who may be included in the second group of "surprised and disconcerted people", we say that working under these conditions is an intellectual challenge. South America is a continent offering the best conditions to: learn rock art, far from dogmatism, narrow paradigms and "official schools" of scientific thought. Forms that our cultural and scientific system imposes to restrain talent.
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Because it is important to bear in mind that in the midst of the discussion of methodologies and theories, papers and ideas, it is "the talented person who creates new methods, and not the opposite" (Bunge, 1980:44).

Nevertheless, we again state that "today it is utopic to try to build a theory aspiring to provide an American cosmic vision by means of definition and extension of styles" (Consens, 1987:260).

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