Paths in the landscape: Rock art as a tool to track past information networks

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Résumé

One of the main reasons why humans build social networks is the exchange of information. Information is a good as valuable (or even more valuable) than any material good. Information circulating by a set of social networks, working through time, generate, like water makes gullies in a landscape, a set of connected paths, what we have termed Cultural Transmission Archaeological Paths (CTAP see Caridi and Scheinsohn 2016). Information and materials circulate by those opened paths, offering lines of least resistance that leaves patterned material consequences. Those materials allow us to track a regional CTAP, a temporal flattened image of the social networks active in a certain area.
One of the best ways to track those regional's CTAP is through rock art.
Rock art was one of the most ancient visual communication channels that humans had. Archaeologists had been aware of the communicative role of rock art and its storing information capacity (cf. information storage model). Whallon (2011) argued that this information storage system functions only as long as the knowledge of how to retrieve that information is present in a social group. We think that Information Theory and networks allows us to treat its information content without having to consider its meaning. Given the accretional characteristics of rock art, what we have in a certain landscape is a differential pattern of motifs distribution which was accumulated through time. There are many time spans mixed up since, unless we have detailed radiocarbon dates or other way of chronological control, it is not possible to separate them. But Mutual Information, a measure of the mutual dependence between the two variables that quantifies the amount of information obtained about one random variable, through the other random variable, allow us to reconstruct those "fossilized" CTAPs by formalizing correlations between, in this case, the presence and absence of rock art motifs in archaeological sites and visualize them in a network defined by a set of nodes (rock art motifs) and a set of links (mutual information between them). We will exemplify this proposition by analyzing a set of rock art sites from NW Patagonia (Argentina).

Mots-Clés: Rock Art, Information, Networks

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