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Art in the Making: The evolutionary origins of visual art as a communication signal

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CONCLUDING REMARKS

If certain of man's handiwork can be proved to be the result of a special human impulse of universal incidence, coeval with the earliest discovered human evidences; if it creates certain definable tendencies and explicit means of expression which, however varied their application, are identical in intention; and if these are peculiar to itself, it is essential to just and profitable conclusions to approach all works of art along the lines indicated by those conditions, if its place and significance in the evolutionary development of man are to be accurately comprehended.

W. PAGE ROWE, 1930

These last few pages briefly summarize the main points that have been made over the previous six chapters, indicate and describe the limitations of the research, and point out some important directions for future research.

General Summary

Throughout this book I have described that for over a century researchers from multiple disciplines have enquired about the psychological and biological foundations of visual art. Chapter 1 looked particularly to archaeological and evolutionary perspectives and to recent developments in the understanding of human behavioural evolution. The review revealed that in archaeology, visual art has often been portrayed as a by-product of human cognitive abilities, namely language. Whereas evolutionary views, for their part, have frequently suggested that visual art may be an adaptive trait that 'evolved for' some specific function such as mate choice or social bonding. I suggested that conceiving of art as a communication signal can potentially synthesize these views, allowing to formulate questions about the cognitive and behavioural effects of visual art and of how these come about in phylogeny and ontogeny. Characterizing visual art as a communication signal also makes it possible to better understand its biological foundations, as we can draw parallels with animal signals and account for its great formal and cultural variability across time and space, since human communication is context-bound.

The second chapter gave an overview of the current state of the archaeological record of Pleistocene visual art forms. It focused on evidence of pigment use, personal ornaments, incised objects, carvings and painting. I argued that the emergence of increasingly complex forms of visual art over the late Pleistocene may have to do with escalating labour investment in art practices and changes in the structure of social organization, rather than with growing cognitive capacity as has often been suggested in archaeology.

Concluding remarks

In chapters 3, 4, and 5 I carried out a critical assessment of three evolutionary models for the origins of visual art. Chapter 3 looked into Geoffrey Miller's argument that visual art is a courtship display that evolved via sexual selection. Chapter 4 discussed the model of art as a ritualized behaviour whose purpose is to enhance social cohesion, suggested by Ellen Dissanayake. Chapter 5 examined the work of Steven Mithen and his proposal that visual art is a result of human cognitive evolution, i.e. the 'modern mind'. I pointed out that these have more in common with a communication framework than their authors have realized. Particularly, I have emphasized that in one way or another the three models somehow refer to visual art as a signal, but have been more concerned with reconstructing and interpreting the content and function of early artworks, rather than with accounting for their development as shown in the record.

Drawing on the suggestions by anthropologists Martin Wobst (1977) and Polly Wiessner (1983, 1984), in particular, in chapter 6 I suggested a scenario that correlates the emergence of visual art forms with the establishment of reciprocal networks among Pleistocene hunter-gatherer groups. Along these lines, I proposed that visual art coevolved with typically human ways of social organization and cooperation strategies. My argument, in brief, was that Late Pleistocene human groups became organised in band societies that established networks of indirect reciprocal cooperation, which favoured cultural strategies of individual recognition such as social markers, e.g. styles of personal ornamentation. These early forms of visual art, by conveying information about social identity, became important in recalling and assessing individual interactions in cooperative networks, creating expectations of behaviour, as a result enhancing collaboration among allies and reducing conflict among antagonists. I also argued that, as a cultural strategy, visual art could have been adaptive by reducing risk of aggression and increasing resource acquisition through trade. As other culturally evolved traits, like tool-making and cooking, visual art too could have had an important impact on shaping human cognition and behaviour. Finally, I suggested that this model is more consistent with the archaeological record of the Late Pleistocene than other proposals and can potentially explain why visual art is apparently restricted to modern human populations of a certain minimal size.

Furthermore, I indicated that visual art should not only be seen as a behaviour, or a cognitive ability, but as a "technological endeavour" (Gibson 2011:385), that is as a human-made artefact that requires for its creation tools, techniques, skills and knowledge that have been culturally developed, accumulated and transmitted. I also suggested that the emergence of visual art practice probably did not evolve as an isolate trait or set of traits, but more probably arose by convergence and co-option of various ancestral hominin traits such as tool crafting and symbol use. So making art, either in the Pleistocene or the present, implies more than creativity, intelligence, and imagination, it literally requires *making* art, hence art is in the making.

Limitations of the research

The greatest limitations of this research that I can so far identify refer to three issues common to archaeological research in general: a small sample size, reliability of the data, and lack of prior research within the suggested approach. I briefly discuss these problems below.

As I have described, it is only in the last couple of decades that researchers have realized the potential chronological depth of visual art. Therefore, the corpus of the earliest visual art forms has only just begun to take shape. On the one hand, the number of sites and artefacts with indications of visual art dating between 100 and 50,000 years has increased greatly in recent years as researchers have become more aware of their presence. On the other hand, the overall available sample size might still be too small to infer significant relationships from it. For instance, the proposal elaborated in chapter 6 is based on our current (limited) understanding of Pleistocene human demography, social organisation, and interactions across groups. Changes in our knowledge of any of these aspects could then have great implications for the suggested scenario. Also, I have mentioned that researchers often describe the record of visual art as 'patchy', but as the sample continues to become larger, the gaps may soon start to fill in and we might be able to acquire a clearer idea of the ways in which the different visual art forms occurred across sites and periods.

Another potential problem is the reliability of the data. This is linked to issues such as geographical research biases and material preservation. In chapter 2 I have discussed, for example, that due to the history of research, some areas will generally be more available to archaeologists than others. And, due to the history of deposition, older finds will be more scarce. Therefore, it is possible that the evidence we have are just indicative 'pulses' of the actual record, and that we are simply 'drawing lines through dots'.

Finally, I have discussed that often, researchers are more interested in interpreting the contents of visual art, or suggesting motivations for its production, than in accounting for its patterns of emergence and change. For this reason, there are few archaeology-based models that explore a possible correlation between the earliest patterns of visual art forms and other aspects of human activity that can be deduced from the record, such as population density, network interactions, resource acquisition strategies, etc. Hence, there are few specific hypotheses that this research could follow up on or be compared to.

These limitations, however, can suggest ways to develop future avenues of research.

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Suggestions for future research

The general observations and proposals made in the previous chapters have the potential to be expanded and improved in terms of scope, testability, and definition.

The first suggestion is regarding the chrono-geographical scope. The two-stage model for the evolution of visual art, from assertive to emblemic mode, (as elaborated in chapter 6) may potentially be tested in various archaeological and historical contexts. In this book, I have focused mainly on the mid- African Middle Stone Age, and the European Early Upper Palaeolithic. However, there is room to expand the scope to the Asian, Australian, and American records, for example, and to check for consistency in historical ethnographic cases.

I also put forward some manners to further test the model suggested in the previous chapter. According to the prediction that the assertive and emblemic modes of visual art will be correlated with the incidence of interaction between and across human groups, there should be cases where, due to changes in either demography or social organization, the presence of collective forms of visual art (emblemic mode) will 'revert' to individual (assertive) forms. Identifying such cases could provide an interesting manner to test the model's predictions. Looking in more detail at the whole record of the Upper Palaeolithic in Europe, with its great variability of styles and forms of visual art across regions and periods, might provide some opportunities to test these suggestions – following up on the study by Barton et al. (1994). Similarly, cases such as those of the historical hunter-gatherers of Tasmania and Baja California provide interesting possibilities. In both examples, the assumption is that at some point there was an interruption in the pattern of cultural transmission that produced a marked quantitative and qualitative decline in material culture. These patterns should also be reflected on visual art practices, if the assumptions of our model hold true.

As for the more general suggestion that visual art should be understood as a communication signal, current research on the evolution of animal communication and studies of signalling systems should provide comparative material to better understand how visual art might have emerged and diversified, and the range of effects it has acquired. Signalling theory in biology and sociology should also provide a strong theoretical framework.

Finally, I suggest that future research on the origins of visual art needs to acquire better resolution. That is, researchers should be more specific about what they want to address, whether it is the emergence of a specific art form or technique (e.g. carving, painting), a content style (e.g. figurative, schematic), or a behavioural pattern (e.g. visuo-motor abilities, drawing skills). Also, studies should narrow down on the development and production of art forms over time, with all that this implies, such as changes in traditions, conventions, techniques, materials, styles, distribution, etc., trying to relate these to other aspects of the

archaeological record. For instance, network perspectives in material culture and archaeology (Knappett 2011, 2013) offer an interesting approach with potential application to the early record of visual art. Moreover, research into the evolutionary origins of human behaviour, in general, should reassess the importance of exploring cooperation strategies as an important selective context for human cognition, culture and communication.

Final reflections

In a way, the conclusions of the present research do not defer much from Hirn's, when he wrote (1900:304):

And beyond the fact that art has been obliged to avail itself of media which have originally been called into existence by utilitarian, non-aesthetic needs, there lies another fact. To these external 'origins' we can also trace some of the most important qualities which we appreciate in a work of art. In this way it is open to us to explain how several of the virtues of art, as we know it, may be derived from the primitive needs which it subserved; how, for instance, the lucidity of art may find its explanation in art's use for conveying information; how the sensuous and attractive qualities of all art may be traced to the need for propitiating favour; how the power that resides in art to brace and stimulate the mind may be transmitted from the days when the artist was appointed to nerve his fellows for work or war.

Despite the fact that Hirn's observations are still very much valid today, I would like to think that we have made some progress in our understanding of the origins of visual art in the eleven decades since the publication of his enquiry. For one, a great archaeological corpus of Pleistocene visual art has been accumulated since then, going back over 100,000 years.

This rich record has the potential to offer a yardstick with which to test hypotheses on the evolution of human culture. Therefore, archaeology is "capable of providing the direct evidence for the actual patterns of development of different aspects of behaviour over the course of human evolution" and through it we can "engage actively in evaluating the alternative hypothetical models of cognitive evolution against a (more or less) empirical data base" (Mellars & Gibson 1996:1). But in spite of its unique position to provide a "temporal backdrop against which the actual course of historical events have been played out", researchers have not yet taken full advantage of archaeology and its potential to explain evolutionary patterns of human culture and behaviour and test evolutionary hypotheses (Eldredge 1989:173-4). In the same manner, scholars from all disciplines interested in the origins of visual art have to make better use of the archaeological data available to them. From this perspective, origins of art hypotheses may be evaluated according to two criteria: a) how well the main arguments agree with what we do know about the biological and cultural evolution of humans; and b) the extent to which the

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empirical archaeological evidence for visual art meets the conditions that would be expected if the hypotheses were correct, i.e. their predictions.

As I have reviewed in the previous pages, the frequent disregard for archaeological evidence is partly due to the scholarly tradition of putting forward explanations of behavioural evolution based on current function, and partly by clinging to a notion of visual art as a unique human achievement, as special as our own species. But as Gould remarked (2002:912):

However much we may yearn to regard ourselves as the apotheosis of an inherent tendency in the unfolding of evolution, we must someday come to terms with our actual status as a discrete and singular item in the contingent and unpredictable flow of history. If we could bring ourselves to view this prospect as exhilarating rather than frightening, we might attain the psychological prerequisite for intellectual reform.

Similarly, when we stop seeing visual art as an enigmatic product of human intelligence, and understand it within the framework of biological communication and hominin evolution, we open an exciting possibility to better understand the role that it has played in our history, without it losing sight of its remarkable aesthetic and affective qualities.

To be sure, when we understand that much of our human ‘uniqueness’ is part of our hominin heritage and that those traits that ‘make us human’, like visual art, have been shaped by a long history of interaction between cooperation, cognition, communication, and culture, “light will be thrown on the origin of man and his history” (Darwin [1859]2006:306).