



# Slow Science But Fast Forward: The Political Economy of Rock Art Research in A Globalized World

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*Many of us have been running all of our lives. Practice stopping.*

*(Thich Nhat Hanh, cited by Cohn 2022)*

## Abstract

There is no doubt that the past decades have brought exciting and novel understandings about geographic distributions, chronologies and analytical methods to the studies of rock art. Even from the lurch into the twenty-first century, this has been a fast forward: increasing confirmations of early image-making in Australia and other places; successful application of a new dating method to reveal previously unimagined figurative images in very deep time in Borneo; a proliferation of rock art knowledge and research; and expanded and interconnected communities of researchers are just a few among many examples of fast-breaking news for the field. But at the same time, some of the practices that are decried by the arena of “slow science” are still with us and have, perhaps, precisely as part of the “globalization” of rock art research, become more entrenched by those who consider the field to be more competitive than collaborative, still motivated by the pull of “origins” research and claims, and the lack of retractions when, indeed, a need for such is at hand and for the betterment of the field. Slow science promotes time to think, rather than haste to get out the big next “scoop”; it promotes the reminder that we are enmeshed more than ever in broader social interests, human experiences and human needs, and for a more lasting and even an ethical science, racing ahead is deeply problematic. This chapter will explore the issues implicated by the fast-moving world with its dampening of local knowledges and alienations of non-experts as is situated in rock art research and the benefits/mandates of what slow science can bring to the field. In fact, I will suggest that rock art research is an ideal field for advancing the benefits and the power of slow science.

## Keywords

Slow science · Slow rock art research · Knowledge economy · Scoops · Origins/the earliest research · Indigenous archaeologies · Humanistic science

## 21.1 Introduction

In this chapter, I will primarily discuss aspects of the slow science movement and how this exposes some “matters of concern”<sup>1</sup> – more so than “matters of fact” – in rock art research, especially in association with the globalization of research, researchers, and research findings. First, I will provide some history and basic principles of slow science, a movement that has been around for several decades, at least, even if it is not exactly coordinated and centralized as a movement might be. From that, I will try to draw out some of the implications for how archaeology in general and rock art in particular have been, in some cases, in tension with—or even in contradistinction to—what a slow rock art science would endorse. The themes that emerge from this include the on-going over-valuation of origins research and the “big scoop”, the resistance to reflexive reconsiderations (much less to any sort of retractions), and the often-prevalent competitive spirit at a time when, if anything, collaborations and community-based research are being not just developed but

<sup>1</sup>As differentiated by the late Bruno Latour (as cited by Stengers 2018, 3) whereby considering ‘matters of concern’ “insists that we think, hesitate, imagine and take sides...what they require is the power to make people think about what concerns them”.

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elaborated and instantiated such that our research is coming to be as much about relationships as about “facts”. This is not to deny the impressive and revelatory research that is being done, as well as the development of many research practices that are advocated by the slow science movement such that soon, we hope, they become even more integrated and central to what it means to do rock art research. Many chapters in this volume attest the achievement of those aspirations of rock art research that are more congruent with a slow science approach. But the political economy of rock art research is nonetheless with us, and, as with other fields of inquiry, the knowledge production economy can all-too-readily constrain and divert our research, especially in the context of a more globalized community of scholars that may well promote competition more than collaboration and contemplation. I aspire here to develop why rock art research could be among the key research fields that could not only benefit from more slow science but also be a notable leader/example.

## 21.2 Slow Science and the Slow Science “Movement”

There is quite a long and varied history to the development and evolution of slow science. Some aspects of it—such as its extensive manifestations in educational and pedagogical theory and practice—will be outside the scope of this summary discussion (see, for instance, Menzies and Newson 2007; Salo and Heikkmen 2018). However, as ethnoarchaeologist/anthropologist Olivier Gosselain (2011, 129) has described it, there has developed “a huge gap between a bureaucratic conception of research” —with all of its evaluation metrics—“based on... neoliberal dogma and corporate management, and the actual practice of research, based on the mutual commitment of researchers who strive above all to do their work honestly” and often for creativity and fun as much, if not much more so, than for the so-called excellence that such bureaucratic mandates seek (quotations translated from the French). Thus, the title of Gosselain’s paper: “Slow Science: La désexcellence”.<sup>2</sup> Gosselain, among others, notes that the quest and calls for a more slow science have come from many different and independent disciplines and voices, such as Eugene Garfield (1990), an information scientist; Carl Honoré (2004), a journalist; Lisa S. Alleva (2006), a molecular and cell biologist; Isabelle Stengers (2018), a chemist and a philosopher of science; Salo and Heikkmen (2018), educational researchers; and, more closely related to rock art research, see Paul Lane (2016) and other ethnoarchaeologists (Cunningham and MacEachern 2016; Brady

and Kearney 2016; Gosselain 2016) there is now even a “slow birding” (Strassman 2022) that embodies a key way to think about this: more contemplative than competitive.

While one might think that all that slow science involves is just slowing down rather than fast-tracking one’s research, taking more time to collect data and to publish, the concept is actually philosophically deeper than this (e.g., Stengers 2018; Honoré 2004). Certainly, the fast-tracking exists and has perhaps become accentuated, especially with the demand for publishing in the high-ranked journals (with their own narrow formats that tend to channel only certain kinds of claims and reporting genres, see in Stengers 2018, 48–52). In interesting essays that are explicitly about slowing down aspects of archaeology, Caraher (2013; 2016) suggests that the digital enhancements of the practice of archaeology—such as the use of iPads and delimited recording forms—have pushed what has been a craft (Shanks and McGuire 1996) to an often dehumanized and mechanized collection of standardized data. Kansa (2016) also draws our attention to the genuine need for “critical reflection on how new media become part of our profession”: what are “the forces that shape the branding, management, and financing of digital data in archaeology”? (Kansa 2016, 444). This is a question that should be asked about all of archaeology, not just digital data methods. These critiques and calls for critical reflection come from fully engaged practitioners of the very domains that they are critiquing, such as Kansa’s identification of himself as a “dedicated digital archaeologist” or Gosselain’s concerns about his own field of ethnoarchaeology (Gosselain 2016). While some of these critical concerns are in relation to the increasing use of new and multiple “digital” methods, methods that themselves have contributed to the faster pace of research, similar sorts of critiques obtain for other emerging and new methods (e.g., DNA analyses, Marila 2019), ranging from dating methods as well as various geoscientific methods of research, analysis and representation, such as illustrations and other visuals. As Kansa notes for digital developments, a more widespread constraint on the rewards and practice of a slower science is the funding methods that privilege the short term and enhance the competitiveness inherent in the fast sciences.

There are various developments in the practice of science and the presentation of its results that mitigate against the possibilities of a scientific practice that enables the relationships between researcher and the worlds they are not just researching from a “scientist standpoint” but within which they are embedded. It is this embeddedness that a slow science wants to recuperate and draw from. In a telling observation, Stengers notes that perhaps some of the first practitioners of a slow science were women primatologists<sup>3</sup>: “They allowed themselves

<sup>2</sup>One term often used in discussing slow science, “désexcellence”, is attributed to Isabelle Stengers (2018), but see Gosselain 2011.

<sup>3</sup>Suggesting that they did not have to worry about demonstrating they had the “right stuff” to be a researcher; as women, they had little hope

to be affected by the beings with whom they were dealing, looking for suitable relationships with them, putting the adventure of shared relevance above the authority of judgement” (Stengers 2018, 42). I will return to this aspect of a slower science of and for rock art in a later section.

### 21.3 Matters of Concern with “Fast Science”

In 1990, Eugene Garfield’s short essay in *The Scientist* pointed out what we all know at some level: “Fast Science vs Slow Science, or Slow and Steady Wins the Race”. He notes, however, how there exist various “hot fields” that are “highly publicized, hyperdramatized”, and that are, furthermore, elaborated by “the media, [which is] ever in pursuit of the big story, the banner headline, stoke the fire, seizing every opportunity to trumpet sudden breakthroughs” (Garfield 1990, 14). Many of us have long noted this with the many versions of “origins research” in archaeology, especially given the prominence of origins research in the political economy of archaeology that over-values it (Wobst and Keene 1983; Conkey with Williams 1991; see also Carroll 1990 on the gendered implications of “originality”). For Garfield, the key problem with this image of how science is done is that it creates and perpetuates the deeply problematic notion that “scientific progress is achieved primarily in sudden flashes of genius” (Garfield 1990, 14) or in archaeology, in sudden unanticipated discoveries. Despite the realities of how most of our research is done—slow and steady—certain topics, fields and researchers are often caught up in going for the “scoop”. In a *Science News* note entitled ‘Risk of being scooped drives scientists to shoddy methods’, Cathleen O’Grady (2021) summarizes the research of Tiokhin and his colleagues (Tiokhin et al. 2021). Their particular study definitely reminds us that scientific disciplines vary, and, for rock art research, we need to ask ourselves—with a critical stance—how much do we reward being first to publish, how likely or how rarely do our journals and other publication venues publish negative—or at least disappointing—results, and how difficult is it to get particular projects with less well-known researchers<sup>4</sup> off the ground? (Fig. 21.1)

The matter of concern that Tiokhin and colleagues raise—“getting the scoop”— suggests how the competition for priority can actually “harm the reliability of science” (Tiokhin

of a career path (Stengers 2018, 41–42).

<sup>4</sup>This brings up the interesting but problematic Matthew Effect (Merton 1968) whereby peer recognition allows already eminent researchers to win more recognition (and support) than their unknown peers; a sort of the “rich-get-richer” syndrome. See one recent study that confirms this (Brainard 2022). Not surprisingly, it is often those from elite institutions, countries, genders or other more dominant groups that are privileged. Has this too been operative in rock art research?

et al. 2021, 857). Of particular relevance here for rock art and related archaeological research is how this can, for example, readily lead to research with smaller samples. We are particularly vulnerable to this problem, given the inherent nature of archaeology with its issues of preservation, taphonomic constraints, and poor sample sizes in general, often leading however, to grand generalizations based on inherently limited data.

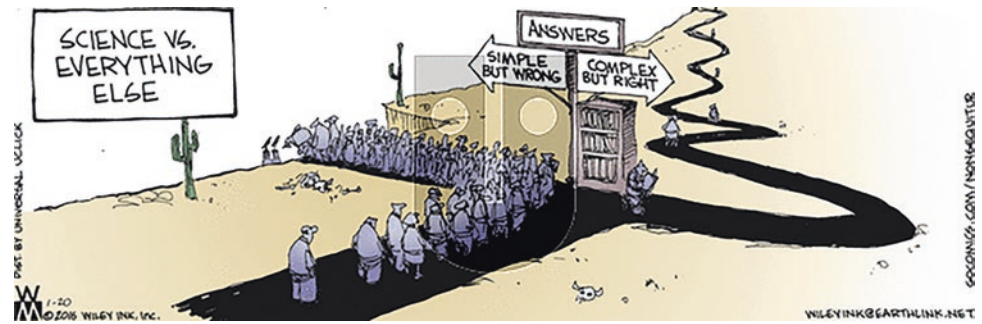
Has it been the case that some rather grand inferences have been made based on a relatively small sample? One could certainly cite here the debate over the inferences about “Neanderthals made art” (see Hoffman et al. 2018a, b; White et al. 2020) based on just a limited number of controversial dates, a study that furthermore involves not only the debated accuracy and use of the methods used (Pearce and Bonneau 2018; Pons-Branchu et al. 2020; Sauvet, this volume; Slimak et al. 2018) but also its appearance as a cover story in the top-ranked journal, *SCIENCE* (Hoffmann et al. 2018a) as if something of general scientific significance has been solved. It has been noted in the wider scientific literature (e.g. Franco et al. 2014) that “preferentially valuing positive over negative results can generate publication bias, which distorts the published literature” (Tiokhin et al. 2021, 858) or, more seriously, promotes the “canonization of false facts” (Nissen et al. 2016, 1). In the “Neanderthal art” case, for example, not only did more skeptical and challenging views not be given much support, but the contested view has been integrated without question into further literature (e.g., Bahn 2021, 2) and also into the general public’s (unquestioned) narratives about the “origins” of Art-making. Art-making, in turn, has long been a highly valued feature<sup>5</sup> of humanity from the Western perspective, and as such, any claims to having “identified” it, especially the “earliest”, are ideal attributes to constituting a “scoop”. One unfortunate result of many “scoops”— of even just some fast science that has been perhaps mobilized by the pressures to produce positive results<sup>6</sup>— has been the need for corrections (which, of course, can be important and illuminating) and actual redactions. As Stengers notes, in her critique of the all-too-influential role of the so-called top ranked specialist journals:

Without even mentioning fraud or misconduct [!], the number of articles ‘withdrawn’ after publication (meaning: ‘should never

<sup>5</sup>See e.g., Conkey with Williams (1991) for a fuller discussion of how such human practices that we might call Art are part of the deeply problematic ways in which archaeological categories and preferred objects of knowledge are defined and then privileged as core features of the acceptable and desired archaeological narratives. Thus, in the political economy of archaeology, those who pursue the origins of such categories are endorsed and elevated. We are too often mobilized by an “unacknowledged hierarchy of values that dictates” what we should be studying (after Anthony Cutler, personal communication, 1991).

<sup>6</sup>The important study by Nissen et al. (2016) points out that the publication of negative results is “essential” for good science and that “stronger evidentiary standards do not reduce the need to publish negative results” (2016, 8 and 10).

Fig. 21.1



have been accepted by the referees’) is sharply increasing, including and even mostly in the top journals! (Stengers 2018, 51).

The top-ranked journal *Science* often now publishes retractions<sup>7</sup> (e.g., Thorp 2022, Sills 2020, 2022; see also Piller and Travis 2020). Sometimes we need to resist rushing to some conclusions without at least admitting that the results could be only preliminary.

Often, as Aubert (quoted by Zimmer 2023, A11) has described for some recent early hominid behavioral claims, including the so-called authorship of some wall engravings, “it seems that the narrative is more important than the facts”. This particular case has presented the most egregious instance of widespread and spectacular but unsubstantiated claims – that an early hominin species, so-called *Homo naledi* found in the Rising Star Cave system (South Africa) at more than 240 thousand years ago – not only intentionally buried their dead but also created what they term “rock art” (see e.g., Berger et al. 2023). While multiple reviewers of the online account in *e-Life* have taken strong exception to claims that lack empirical support and a detailed published challenge to these claims has also been published (Martinón-Torres et al. 2023), the research team has nonetheless continued to promote their (as yet unsubstantiated) claims in multiple media outlets including having arranged for their own Netflix show and outraged the scientific community by sending some of the fossils themselves into a space orbit. By now, the wider public can only assume that these so-called “facts” are true and they become the pinnacle of the “canonization of false facts”. But with this case, one that centers on the “origins” or deep time manifestation of so-called rock art, can be likened to other recent problematic cases in science, such as the astronomy researcher, Avi Loeb’s claims about extraterrestrial life:

It’s polluting good science—conflating the good science we do with this ridiculous sensationalism and sucking all the oxygen out of the room (Desch in Miller 2023).

Even more significant is that such unsubstantiated and sensationalist claims and media promotion not only “skew public perception of how science works” (Desch in Miller 2023) but also poison the process of scientific review. Many potential and more objective peer reviewers of pre-published papers shy away from engaging with such claims and research papers and thus it is too often the case that it is only supporters of the research at hand that review and more than likely endorse it: “a real breakdown of the peer review process” (Desch in Miller 2023) that is so crucial and central to the scientific process.

It is relevant to note as well that metric research has shown that in many fields, especially those in the sciences, there are fewer reports that “hedge” about their observations research results (Yao et al. 2023). That is, by asserting rather than using language of some uncertainty or tentative-ness many published research papers characterized by a linguistic positivity are as much about promoting the research as about the possibilities for further research, alternative results and observations or even about ambiguity and doubts.<sup>8</sup> (see also Corneille et al. 2023).

There is nothing wrong with preliminary results or that there are alternative accounts, especially in archaeology given the inherent ambiguity of archaeological data (e.g., Gero 2007; Tringham 2023). There have been some interesting debates about a number of rock art manifestations in the United Kingdom focusing on both if there is an image at all and, if so, is it a depiction that could be attributed to past image-makers (e.g., Mullan et al. 2006 in regard to the “mammoth” from Cheddar Cave) and/or if it can be dated to or attributed on other grounds to a late period in prehistory,

<sup>7</sup>With the development of increasingly sophisticated uses of such software as Photoshop for the necessary illustrations, there has developed another area in which fraudulent or at least misrepresentation has increased (see Bik 2022, “Science has a Nasty Photoshopping Problem”).

<sup>8</sup>In the Yao et al. study of papers published in *SCIENCE* over 25 years (from 1997–2001), they noted that the use of hedges (that expressed some doubts and uncertainties) decreased significantly. They suggest it has been the combination of both using more positive language and the reduction of uncertainties in the writing strategies that have developed, with important implications for peer reviewers, editors and researchers. “Hedges”, they note, continue to be more widespread in the humanities and social sciences.

even to the Paleolithic (e.g., the reindeer in the Cresswell Crag, see: [https://www.bradshawfoundation.com/british\\_isles\\_prehistory\\_archive/gower\\_peninsula\\_south\\_wales/reindeer\\_discovery.php](https://www.bradshawfoundation.com/british_isles_prehistory_archive/gower_peninsula_south_wales/reindeer_discovery.php)).

And while rock art research that seeks or is engaged in some form of the earliest/origins quests is hardly the majority of rock art research, especially in the past decades where we see some very different approaches, nonetheless, it is an aspect of rock art research that is prone to what Garfield noted for fast science—“highly publicized, hyperdramatized”, elaborated by “the media, [which is] ever in pursuit of the big story, the banner headline, stoke the fire, seizing every opportunity to trumpet sudden breakthroughs” (Garfield 1990,14). Stengers would call this “candy for the media” (2018, 51). Martin Porr (personal communication, 2022) reminds us that perhaps this fascination with origins, or that some art is claimed to be the earliest, is primarily a Western perspective that is incompatible with the understandings of (or just plain not of relevance or interest to) many Indigenous groups who engage with rock art. Brady and Kearney (2016), following their rock art experiences with Indigenous people in both Australia and the US Southwest, call for liberating researchers from a “linear temporal logic and empirical benchmark” and for abandoning (what are to those in the western and/or Global North) “conventional notions of time” (2016, 643). That is, to whom does the label, “earliest”, matter? Why should there be such an emphasis – if not, a privileging – of locating the origins of Art? As has been suggested (Conkey with Williams 1991, 104–105), as soon as one origins claim is made, the ever-present temporal gap is simultaneously created: “A gap that is expected to be filled in some day by some equally heroic discovery”. There is no closing of the gap, no finality. And origins research – as a key object of knowledge – has become a primary means through which archaeology interfaces with the public (Conkey with Williams 1991, 128) as well as is more highly rewarded in the knowledge-production economy.

Other highly publicized issues in rock art research are, unfortunately, often about the damages, destruction, effacing, or fundamental challenges to conservation and preservation (e.g., the on-going situation with the amazing Murujuga rock art of the Burrup Peninsula in western Australia, see <https://www.fara.com.au/murujuga-burrup-rock-art-conservation-project/> where climate activism and urgency about perceived threats from industry emissions and general industrial expansion is creating some fast science (Smith et al. 2022a, b), hyperdramatized, often inaccurately reported through a media barrage, in contrast to the slow science being undertaken by a multidisciplinary team of 40 scientists who have conceptualized and are now implementing, albeit belatedly, an internationally peer-reviewed programme to understand the nature of cumulative emissions from the

industrial estate to rock art across the archipelago (McDonald 2017) to allow the appropriate management decisions to be made: see <https://www.wa.gov.au/service/aboriginal-affairs/aboriginal-heritage-conservation/program-murujuga-rock-art>). Conservation itself is not a neutral process and it often plays a key role in negotiations and conflicts over who are the “experts”<sup>9</sup> in the relevant decision-making, what warrants being conserved, and for whose histories are being ‘protected’ (Caitlin O’Grady 2021). Rock art conservation in settler countries often involves the mobilizing of “green” agendas that almost inevitably impact on ‘black’ agendas for a range of reasons (see, for instance, Altman 2010; Pickerill 2018; Vincent and Neale 2017). In the case of Murujuga, by privileging individual Indigenous voices over a recognized Indigenous governance collective (Jeffries 2023), there is an even more potent and divisive struggle, particularly as this Aboriginal community strives to demonstrate its management authority over this cultural landscape through a nomination to UNESCO (see chapter by Stevens and McDonald this volume). As Caitlin O’Grady reminds us, “the power of conservation to legitimize claims about the past through preservation” and the “process of transforming cultural heritage into accepted narratives has been an integral part of conservation practice” (Caitlin O’Grady 2022b; see also Caitlin O’Grady 2022a). And, while it is often through the contested methods, “results” and issues that any discipline evolves and grows, a more “slow science” approach for rock art, as advocated implicitly by Brady and Kearney (2016, 643), calls for “methodological openness” and a “distinctly dialogic process” in which “all is potentially challenged, reconfigured and redefined”. We must be prepared to accept and act on those challenges.

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## 21.4 Slow Science for Rock Art Research

Here I suggest that there exists rock art research that is already within the parameters of what “slow science” can be about, but also how rock art research could take a lead in advancing slow science. To do so, I propose two key and inter-related features of slow science that seem particularly relevant to and also already part of some rock art research. I also want to reiterate that it is not just the issues of a “slow science movement” for archaeology that warrants being held up as relevant and of potential value and applicability. Rather, there are at least two

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<sup>9</sup>It is useful here to take note of the important discussion of “boundary work” (Gieryn 1983) that probes how an “expert” is constituted in the demarcations between scientists and non-scientists. See how a Getty Conservation Institute roundtable discussion of “experts” on the preservation of rock art and its significance are four individuals (albeit smart, active and important contributors) but did not include local or Indigenous, or so-called non-specialists (Agnew and Levin 2019, 18–23).

other intellectual, conceptual and evolving resources for generating a slow science *in and for* rock art research. Both feminist and indigenous practices in archaeology offer complementary and sustaining support for a slow archaeology; in many ways both approaches are inherently “slow” in slow science ways. One particularly prominent treatise on “slow science” in general (Stengers 2018) is simultaneously feminist-based, with many specific reminders of the differentially gendered nature of the practices—and thus the “results”—of science. Without elaborating here on what each of these two scholarly/theoretical domains is about – the literatures for both are extensive – they are both rich and relevant conceptual resources for how a “slow science” for rock art (and other archaeological/anthropological subjects of inquiry) should be generated (for some approaches that draw on both, see Conkey 2005 and especially Supernant et al. 2020). Some of what these approaches have to offer are incorporated into the following discussion.

I focus on two key aspects of a slow science for rock art. First, there is the very core concept and issue of “slow”: what exactly does this mean, require and provide? Certainly, one feature is to not only practice research and presentations that avoid being overly strong without nuance or recognition of ambiguities as well as too hasty but also to call out such moves by our colleagues. The second key component is that of relationships. Not surprisingly, these two features are interconnected. At its most literal level, a “slow science” rock art programme requires that one slows down in the research process especially if – as it is most often the case – the research involves co-design, permits, and engaging with local people, including but not limited to descendant communities or others who are, at minimum, “interested parties” such as the public and those with intellectual property rights and title holders.<sup>10</sup> Even in instances where there is not an obvious and defined “descendant” community, local relationships are the foundation of a research project, especially since most rock art research is place-based, involving living communities and locations. In fact, as Dodson (1994) concisely noted: “Heritage is bundled relationships”. The “slow” part here is that these can take time and that time needs to be respected. Of course, while researchers are often at the mercy of funding agencies and permitting processes, a slow science approach actually requires us to work on changing and educating those very entities. Yes, a slow science approach and commitment actually mandates that we not merely do our own research but challenge<sup>11</sup> and change the very structures that push “fast science”.

<sup>10</sup>There has been much debate about and disengagement with the business-based term of “stakeholders”; see e.g., Porter 2006, among many online and published discussions. Finding a better simple term is unlikely, and each research situation perhaps requires its own terms in order to recognize and honor the related relationships involved.

<sup>11</sup>Various projects to do this or to figure out how best to disrupt and replace such “fast science” practices, would include a 2023 proposal for

But slow means more than considering how to moderate the timeline of one’s research programme. It implies that our project plans must be flexible enough to allow the time for consultations and local engagements, but it also implies that we must reign in our ambitions and allow primary time for such factors as a methodological “rigor” that is coupled with ethical practices. While we researchers may well tend to assume we are obliged or even want to work at the pace – an acceleration – of research and reporting that is typical of the press, mass media and increasingly of social media, this is rarely appropriate for the pace and requisite prudence of our desired scientific research that is coupled with an explicitly humanistic framework (Moro-Abadía pers. comm. 2023). I doubt that the practitioners of “fast science” engage much at all with the very concept of “prudence”! There are some rock art researchers who have indeed “accommodated” the tempo of research to the needs of different communities, and while this may have slowed down the publication of results, Moro Abadía (pers. comm.2023) notes that such slower practices have often had both epistemological (e.g. Tapper 2020) and social benefits, such as contributing to healing, well-being, and recuperating cultural identities (see Atalay 2020; Schaepe et al. 2017).

As one faces the demands (usually institutional) to publish, publish, publish, one has many questions if a slow science approach is at hand. First is actually questioning if a printed publication is what one wants/needs to do. Besides the access issues (of many sorts), such as who even would or could have access to the publication, Kitcher (in Izzo 2023, 4), in response to a recent study of scientific productivity overall<sup>12</sup>, suggests that researchers should consider thinking “more slowly and carefully about how they allocate their time”; they are being pressured to publish too much and instead [should] do more “qualified and detailed studies”. Once again, a slow science approach mandates demanding structural changes.

And indeed, there are other issues related to the “publish or perish” mandate in rock art research. For example, are there ways to record imagery—if that is part of a project—that are non-invasive or are there ways other than literal recording to understand what rock art images are “there” if their representation is a cultural or ethical concern (e.g., that certain images are not, according to local custom, permitted to be viewed by certain groups of cognizant communities)?

the annual meetings of the European Archaeological Association from the gender archaeology group (AGE) (Montón-Subías 2023).

<sup>12</sup>Park et al. (2023) reported that there is an overwhelming amount of what they call “consolidating” publications across all the sciences (including social sciences)—that support and improve existing streams of knowledge—instead of what are called “disrupting” publications that intervene into basic understandings to innovate, disrupt and reorient science. What we want from rock art research is “disrupting” scholarship!

There is considerable tension between the increasing calls (and requirements, e.g., by the U.S. National Science Foundation) for “open access” and “publication” of results on web-based platforms, on the one hand, and cultural parameters of “viewing” of local communities on the other. Are these media acceptable to different communities? And, appropriately, Robinson et al. (2021) discuss how both natural processes through time as well as new media (e.g., Virtual Reality) generate differing ontologies of context for rock art: The “immersive platforms [of VR, for example] are not just simulacra of rock-art sites but are novel and new entities in and of themselves” (Robinson et al. 2021, 413). If any new methods in a study are being proposed (e.g., certain analytical ones), have they been tested, are they replicable and can they be cross-checked? How does one both present some possibly exciting and new inferences and respect/include that they may be preliminary, ambiguous and be subject to alternative—not literal—representations of images or subject to alternative explanations – or even future retractions?

For example, in a controversial and much commented upon paper from a 2012 special issue of *Current Swedish Archaeology*, Bjørnar Olsen challenges the current trend of interpreting rock art images and their at-the-edge-of-the-sea locations as being overly attentive to symbolic and cosmological possibilities whereas—and much to the dismay of subsequent papers in the journal issue (!)—he would prefer to consider the images as material things, as “things” in and of themselves: a boat and all of its “boatness” for example (Olsen 2012, 22). But why need these be mutually exclusive interpretations? Why not celebrate multiple alternatives, propose varied ways to engage and understand the phenomena of interest? As one subsequent article in this same debate points out so importantly, it is crucial to the core task that we create “alternative conceptions of the past that work against the ideas of cultural essentialism and linear teleological development that have been at the heart of traditional archaeological narratives and archaeology as popular culture” (Källén 2012, 64).

A slow science approach respects alternatives, places one’s inferences within a wider landscape of narratives while admitting and respecting a more expansive possibility of interpretation. Just as feminist and gender theory in archaeology, along with indigenous archaeologies, have opened up the possibilities for other actors, other scenarios, and other “pasts”,<sup>13</sup> a slow science project for rock art should open up possibilities for alternative and expanded inferences and interpretations. Just as offering up research that is admittedly

preliminary, opening up alternatives enriches our representations. Some advocate a methodology of “controlled equivocation” (after Viveiros de Castro 2004, as drawn upon in Moro Abadía and Chase 2021 in their challenge to how we have framed the debate about “Neanderthal art”). As Tringham (2023) has noted in her own development towards a more “sensorially aware” archaeology, our positions in the research process should turn from being someone who is a “discoverer” of “the past”, of “the meanings”, etc., to being an author, a constructor and certainly not some privileged researcher who can “reveal” such phenomena. She wants our writing to become “gentler”, “dialogic”, “self-reflexive”.

In proposing that researchers “slow down” or become, as she puts it “demobilized”, Stengers notes that, once demobilized, “they will learn to appreciate the landscape that situates them, instead of passing through it at top speed” (2018, 47). Recognizing and engaging with/learning from, understanding the influences and effects on the research process that define/frame/create one’s situation has been a crucial (more than 25 years!) feminist concern, developed especially by Donna Haraway, and now equally important in indigenous science (e.g., Lambert 2014; Wilson 2009): “A scientist who pursues the god-trick of seeing everything without taking responsibility for his or her own partial perspective, fails to create responsible knowledge” (Haraway 1988, 582).

That said, it is the attention to, prioritizing and expansion of relationships that must be the core of a slow science, a slow archaeology and slow rock art research. These are not just relationships between researchers and “communities” or relevant interested parties, prominent as those may be. These are relationships between the images, the places, the landscapes, the histories, the past research and researchers, the social networks of audiences, and, with living communities, the relationships among and between various individuals and groups, as well as the relationships of politics, power, interests, names, languages and terms, and representation (e.g., Bawaka Country et al. 2016). What, in each research situation, does the dialogic nature of archaeological interpretation actually mean and require? Rock art research is well-positioned in multiple ways to demonstrate how a “fully relational” archaeology can proceed – from relational ontologies (see chapters in Moro Abadía and Porr 2021), to all of the long standing and abundant literature on collaborative archaeology (e.g., Colwell-Chanthaphonh and Ferguson 2007; Silliman 2008; Atalay 2012, Laluk et al. 2022, but see La Salle 2010 for an important critique<sup>14</sup>). In regard to rock art research, we can take Atalay’s point (2020, 266) that this

<sup>13</sup>It is most likely the case (see Brady and Kearney 2016) that there is not even the conception by contemporary peoples that their rock art is “in the past”. Smith and Wobst (2004, 393) insist appropriately that there should be “more research on the places that are important to Indigenous peoples in the present, rather than on the very old sites that primarily are of interest to-and academic capital for-archaeologists”.

<sup>14</sup>There are many points in this critique to be taken most seriously, but above all, I would highlight that we must be wary of getting too “comfortable” with collaborations (as if these have absolved us of the extractive process for our knowledge economy) and trying to make “familiar” what we are doing. Instead, what is called for is vigilance, “constant vigilance” (La Salle 2010:417).

can be a space to “elicit and confirm connections” that, in turn, can “endow individuals and communities with identities, relationships and orientations that are foundational for health and well-being” (after Schaepe et al. 2017; see also Brady and Kearney 2016). Laluk et al. (2022) advocate for the CARE principles: Collective benefit, Authority to control; Responsibility, and Ethics (Carroll et al. 2020, see also Gupta et al. 2023).

How would a “slow science” list of guiding terms for rock art (or any other kind of archaeology) compare with (differ from!) such a list for those engaged in/committed to a “fast science”? The former would embrace patience, humility, care, discomfort, ambiguities, healing, gifting (not extracting), balance, among other terms (see Atalay and others in Supernant et al. 2020, which is all about a heart-centered archaeology; see also Lyons et al. 2019).

Rather than avoiding mention or minimizing our mistakes and “failures” we can reflect, learn, and share our stumbles with each other, as this will help improve our practice. Recognition and acknowledgement of the necessary imperfection in our practice bring balance to our work.” (Atalay 2020, 265).

We do not see any of this in the “fast science” paradigm. What we want is a re-orientation away from such terms as “discovery”, “largest”, “most extensive”, “earliest”, “most well preserved”, “most skilled”, “most abundant imagery”, “pinnacle of technical achievements”, “use of amazing scientific methods” to shared human experiences, common human needs and an ethical project more so than a value-free “objective” enterprise [in the spirit, some say, of Husserl 1970 and, more recently, of Renn 2020, who argues that “modern science, rather than striving to be value-free, should embrace ethical projects”, as cited by Coen 2020, 256].

## 21.5 Fast Forward?

The globalization of rock art (and other) research has been, so far, a double-edged sword. As many papers in this edited volume suggest we have indeed benefited from the sharing of ideas, information, methods and topics to pursue. We have indeed gained knowledge and understandings from a wider repertoire of rock art around the globe. The “story” of humans making rock images has expanded, has more details, more examples, and more creative and thoughtful perspectives. There is also, in some arenas, more competition, more pressure to publish and even to get “the scoop” especially by those seeking “origins” or the spectacular (as defined in limited terms, even by the major publishers). There are now more domains within which to debate how to interpret and which theoretical framework is preferred (or “the best”). The policies and politics of neoliberal educational practices, the

appeal to citation indices, a demand for more and more publishing are among the many structural parameters still “at work” and still pressuring researchers in multiple ways. Fast science is not going away very fast.

But as rock art research has begun to demonstrate, there can be a “slow down” of our practices as well as a resistance to the neo-liberal and competitive strictures within which many feel trapped (or which others may play up!). The elaboration of the domain of “collaborative” research especially in settings with descendant groups has particular promise, and some (e.g., Brady and Kearney 2016, 643) have even called for not just engaging and adopting aspects of Indigenous archaeology in the ways generally being advocated as a complement to Western archaeological praxis, but an “abandonment of Western science altogether and instead be supplanted by an Indigenous epistemology”. The traditional field of “ethnoarchaeology”, they suggest [as do others in the special issue of *World Archaeology* (Lane 2016)], as a field to serve as a supplement or set of models for archaeology “undermines ethnoarchaeology, which stands to achieve much more than the provision of ‘alternative’ insights into how human life develops and manifests in cultural expressions” (Brady and Kearney 2016, 642; see also Gosselain 2016). Other chapters in this volume address the differences between the frameworks for the study and interpretation of Eurocentric rock art that has depended on a traditional ethnoarchaeology and ethnographic analogies (or just plain ethnographic parallels) and the rock art research when in the context of engagement with local, historic and contemporary and collaborative communities. The different trajectories of these approaches still need rapprochements and bridging, if possible. Are we considering different ways to carry out a “slow science” for rock art that is in the northern hemisphere considered “prehistoric” and that which is involved with descendant or other current cultural groups? (see the now-classic Lightfoot 1995 challenge to retaining a dichotomy between historic and prehistoric archaeology). As well, the term, “prehistoric”, has been avoided for many years in Australia, given the indigenous backlash to their deep time history—albeit not preserved in written script/books—being considered as ‘pre-history’ (see Mulvaney 1969; Griffiths 2018).

Nonetheless, the “fast forward” that we should imagine and enact is not the “fast science” mode, as some globalization has mobilized. Rather, it is that we need to fast forward – by our actions today – to a time for a differentially mobilized set of practices, ones that “slow down”, stop and engage/look/reflect and consider alternatives in all dimensions, or a dialogical relationship with our subjects, topics, sites, theories, methods and motivations. The number of more thoughtful studies is increasing, which explicitly include native



voices as integral to a monograph (e.g. Diaz-Granados et al. 2015) or that are just one part of longer term and more expansive research into regional rock art (e.g., Boyd and with Kim Cox. 2016). Research at the well-known Paleolithic cave art site of Chauvet has been on-going for more than twenty-five years (e.g., Delannoy and Geneste 2020).

While indeed, for example, we want to put out and share widely our findings, our methods, our insights and what we have learned, publications, as we have all experienced, can often take a long time and are often problematically limited in access. We need new models: such as the one in progress for the writing up of a 5-year research project (for which the funding finished almost 5 years ago) on the “Murujuga, Dynamics of the Dreaming” (McDonald and Mulvaney 2023). Here, as analyses are finished and are presented to the Circle of Elders, chapters are completed—and once image clearance is achieved—they are published online. The online gallery that houses each chapter is constructed for public dissemination of those results and as an aid for high school curriculum. These publications recognize the responsibility for scientific dissemination of the results of funded research projects—but has negotiated a collaborative and now co-designed approach to how that work is undertaken. This is being implemented in a new Linkage project – “From the Desert to the Sea: Managing Rock Art Culture and Country”, which builds on the long term, multidecadal, relationships of these researchers with these three Western Australian Aboriginal communities—with vast rock art estates. We should pay particular attention to taking advantage of new media, podcasts, blogs and such and empowering and supporting local communities, especially those in whose landscapes (*sensu latu*) we are working. With “smart” phone cameras there is no excuse for not making videos for/with/by the local communities whomever they may be. How might we strategize to resist the top-down pressures to publish at any cost (to the integrity of the research) and to engage our fellow researchers in research protocols of more integrity (than “going for the scoop” or than deploying shoddy methods)?

In the history of carrying out research on the multiple sites and settings of “rock art” we have witnessed many innovative approaches, varying trends and possibilities as well as capitulations to the lures of “fast science”. Many of these stories are told in this volume and in too many publications to mention here. From a field that was perhaps not taken seriously, especially in certain countries and contexts, to one that is leading the way in expanding how we think and talk about past image-makers and their communities, rock art research has the potential to significantly advance the goals of a more “slow science” – one with attention to human needs, human experiences, and a viable melding of science with humanisms.

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