The French-Anglophone divide in lithic research: A plea for pluralism in Palaeolithic Archaeology

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Afterword

In *World Hypotheses* (1942), Pepper openly expressed his personal inclination to regard 'mechanism' as the more potent 'analytic-integrative' world theory, and 'contextualism' as the more pregnant 'synthetic-dispersive' theory:

> "It almost seems as if the four hypotheses drew together and had a tendency to pull cognitively toward the center, as if most cognitive adequacy lay somewhere between mechanism and contextualism. This appearance is strengthened by our previous comments to the effect that formism seems to be the weaker of the analytical theories, and organicism the weaker of the synthetic theories. This leaves mechanism as the stronger analytical and integrative theory, and contextualism as the stronger synthetic and dispersive theory. We are tempted to surmise that whatever system there is in the world is of a mechanistic type, and whatever dynamic vitality, of the contextualistic sort." (Pepper 1942: 148)

This preference remained fairly intact until the end of his life and resulted in the late *Concept and Quality* (1976) where Pepper sought to fuse both theories in order to forge a fifth, more powerful world theory – 'selectivism.' Although this attempt is widely regarded to have been unsuccessful, his world theory preferences remain noteworthy and can be compared to my own impression of the pros and cons of varying world theories, as they come to view in lithic research.

I generally think that the exposition of world theory ramifications in lithic analysis shows that the role and function of world hypotheses is flexible and depends on the socio-historical context of research. Tapping into the same world theory has not always the same research effects. World hypotheses therefore shape discursive formations but are also shaped by them. The relationship between the cognitive resources provided by a world theory and the discursive context of scientific investigation is reciprocal. The consequence is that the cognitive efficacy of a world theory may differ significantly between subjects, fields, and/or disciplines. The assessment of world theories in particular scientific contexts can therefore only be successful if we take into account how they resonate with other theories and specific object-matters. Personally, I believe that the differential contribution of world theories to the establishment of productive 'discursive spaces' (*sensu* Foucault 1972) is an interesting venue of investigation. The upshot seems to be that the value of world theories depends entirely on their practical *application* and there is no reason to believe that any of them should be generally preferred to any other.

A good example is the 'synthetic'-'analytic' duality at the French-Anglophone boundary. As Pepper himself admits (see *supra*), we are inclined to assume that the ideal combination of world theories would exploit the complementary specialisation of 'analytic' and 'synthetic' stances. The French-Anglophone divide, however, demonstrates that this is only half the truth. The simplest way to maintain relative cognitive coherence within a shared discursive space is to specialise *either* in 'analytic' or in 'synthetic' reasoning. Communication is greatly facilitated if one does not need to bridge the threshold between 'analytic' and 'synthetic' thought. The 'Binford-Bordes debate' (see Chapter 1) is a classic case in point. This debate could become a proper *debate* only because 'formistic' reasoning meant something to both French and Anglo-American lithic researchers at the time. The two disputing parties, in other words, could at least agree on the basic terms of discussion.

An additional realisation is that even the 'integrative' theories may assume a different status in varying research contexts. The direct comparison of French and Anglophone lithic research at least suggests that 'mechanism' and 'organicism' play an almost inversed role in their discursive spaces. Whereas 'organicism' typically builds on 'contextualistic' data and seeks to put these into the perspective of the *durée*, 'mechanism' tends to provide basic insights for 'formism' which then interprets larger lithic data-sets based on these insights. 'Mechanism' seems to be strongest on the *micro-level* of 'integrative' analysis (experimentation, simulation, etc.) while 'organicism' appears to be strongest at the *macro-level* of 'integrative' analysis (synoptic outlook, big narratives). This, in my view, reflects the 'over-specialisation' of the former into the examination of *horizontal* relationships, and of the latter into charting *vertical* relationships.

It may be argued that the relationship between the 'dispersive' theories – 'formism' and 'contextualism' – is of a complementary nature. 'Contextualism' seems to be strongest where the object of research (e.g., assemblages, periods) can easily be defined; 'formism,' by contrast, is more proliferate in how it handles evidence and seems strongest simply where it is successful in amassing large amounts of lithic data. We may therefore conclude that the former is stronger on the *micro-level* of 'dispersive' analysis, whereas the latter is stronger on the *macro-level* of the same. It may then not surprise that in the Anglophone tradition the larger narratives about human evolution have traditionally been supplied by 'formistic' inquiry.

All of this indicates that the give and take between the various world theories is much more complex than Pepper's statement suggests – a fact that even he himself admits (cf. Pepper 1942: esp. 148). As a consequence, it is impossible to know the pros and cons of different world theories in different research contexts before one has analysed them empirically. Distinct objects of science may lend themselves to different modes of analysis and make it easier for some world theories to be successful, underscoring again that the objects of science have an important say in how they are interpreted.

This last aspect may be reflected in the average performance qualities of the different world theories in lithic research. My personal impression is that the 'integrative' theories seem to be the more inconsistent performers but for different reasons. 'Mechanism,' in my view, tends to overstate its field of application and often over-extrapolates its findings. It also becomes easily dogmatic ('Believe in this causal principle or don't do science!'). The primary source of performance inconsistency in 'organicism' is its conceptual complexity. It often makes it difficult for practitioners to transfer 'organicistic' ideas into transparent and digestible argumentations or writings. 'Organicism,' too, can become easily dogmatic and often refuses to defend itself against its critics (problem of 'initiates' and 'uninitiates').[856] The average performance of 'dispersive' lithic research appears to be more consistent; 'formism' and 'contextualism' tend to be *on average* the more reliable lithic knowledge producers.

As a final point of contention, one can consider the trade-off between epistemic risk and gain. I would argue that 'synthetic' perspectives on the lithic record typically involve higher epistemic risk since they rely more extensively on interpretive methods (Chapter 3). In exchange, the knowledge gain is often exceptionally high. 'Analytic' approaches, by contrast, typically invest a lot of resources into reducing the epistemic risk involved in lithic inquiry – some of these approaches are specifically *designed* to eliminate as much residual interpretive load as possible. This, in return, establishes the tendency to yield fairly 'shallow,' 'dull,' and sometimes somewhat 'trivial' conclusions (with the notable exception of successful prognosis). This is not to say that 'analytic' accounts are less important than 'synthetic' ones, but simply highlights the fact that they tend to be more basic and *prima facie* appear to be much less 'exciting.'[857]

The whole discussion – admittedly sometimes placed on fairly 'thin ice' – indicates that the potential of the four world theories to contribute to the advancement of lithic knowledge is fundamentally different and clearly hinges upon the dynamics of interaction with their sister theories. The give and take between world theories appears to be highly intricate and we should not presume that the final answer of putting them to practice has already been given.

[856] This hesitancy to openly defend one's own position against critics seems to be related to the theory's internal conceptual complexity. To draft a proper and poignant defence of the 'organicistic' standpoint would require the investment of much time and effort – time and effort that may be better spent through advancing one's own cause rather than justifying its basic premises.

[857] This trade-off between 'analytic' and 'synthetic' approaches, if adequate, mirrors the old dilemma of navigating 'processual' (objective-scientific) and 'post-processual' (interpretive-hermeneutic) research in British and American archaeology (e.g., Wylie 1989). In the words of Lucas (2012: 2): "[t]hat dilemma, one may recall, invoked the opposition between a safe, yet dull description of the archaeological record (artifact physics) and a more speculative, yet exciting interpretation."

FAQ – Frequently Asked Questions

The purpose of this FAQ is to take up some of the criticism possibly raised against the foregoing analysis and to clarify its implications as well as my main arguments and standpoints. The aim is to prevent misunderstandings from the start and to help readers to clearly see what is claimed or implied, and what is not. The selected range of questions cannot account for every possible spark of criticism of course, but the provided deliberations should give the reader at least a profound sense of what my answers to non-anticipated questions may have been.

Don't you think that you overrate the importance of the French-Anglophone divide in contemporary lithic studies?

Perhaps, and there are certainly different *opinions* about this issue, including my own. But these viewpoints do not matter much in the present problem-context because the question, strictly speaking, is not at stake in the study. This study was merely concerned with analysing and evaluating the nature and reality of the divide, not with demonstrating its paramount significance (see Introduction). In the same way as the mere investigation of a certain lithic collection does not imply that this collection is necessarily more important than other collections, examining the French-Anglophone divide does not imply that the divide stands for the most pressing issue in current-day lithic research. This being said, I have clearly shown that the divide has *some* significance (see esp. Chapter 6) and this fact alone is warranting.

In the end, I leave it to my readership to gauge whether the divide is important enough to keep us occupied.

Is the juxtaposition between 'French' and 'Anglophone' not problematic in itself? Aren't you rather referring to a clash between some (radical) French researchers and all the rest?

Contrary to common belief, a detailed survey of the field reveals that there are not necessarily more Anglophone scholars, especially not if one takes into account only those exclusively specialising in lithic analysis (these differences are also touched upon in in Chapter 1: pp. 21-23). In numerical terms, the two spheres are comparable enough. In addition, I do not conceive of the two poles primarily in terms of nationality. Their significance in the foregoing study is rather historical as well as sociological (see **Appendix I.1**). The circumstance that the 'Anglophone' world appears to be more permeable to scholars trained elsewhere is part of the relevant division, not a difficulty of the study itself. Positing that the category of 'Anglophone' is primarily defined negatively, that is, as 'non-French', further overlooks the many other national research traditions encountered across the Palaeolithic research landscape not included in this study. The radicality charge does also not apply since the same cognitive 'radicality' can arguably be attested to many of the examined Anglophone researchers.

Don't you distort the internal variability of lithic inquiry on both sides by foregrounding the differences between French and Anglophone approaches?

As I explain in detail in Chapters 2 and 6, it is precisely the advantage of utilizing Pepper's epistemological framework to shed light on both the dynamics of the involved external and internal relationships. World hypotheses help to explain, in other words, not only what is put at stake by the divide itself, but also what drives the respective French and Anglophone discourses and what the nature of the key debates is. A classic example is the controversial interpretation of Mousterian typological variability in the Anglophone world, initiated by Sally and Lewis Binford in the late 1960s, which, as I have shown, can profitably be reconstructed as a difficulty to consolidate 'formistic' and 'mechanistic' research perspectives (cf. Chapter 6: p. 247f.).

Does the focus on the 'divide' not downplay cross-fertilising interactions between the two sides which undoubtedly took place?

It is true that I have mainly concentrated on the dividing features throughout my analysis. The reason is that many *prima facie* similarities turn out to be delusional after careful examination; this is also why I speak of 'conceptual equivocality' in Chapter 6. Even though I regard the increasing topical convergence between French and Anglophone lithic research as an opportunity (Chapter 6: p. 263f.), this should not belie the circumstance that many terminological convergences cannot be carried through to the conceptual level. In the end, the term *chaîne opératoire*, for example, stands for different research projects and theoretical commitments on both sides (cf. Chapter 6: pp. 240-243). Similar research questions are pursued by different means and concepts are not simply borrowed but translated and adapted. I provide a number of examples for this dynamic throughout the chapters (e.g., Chapter 5: p. 184, 192 and 193 as well as the discussion of conceptual equivocality in Chapter 6: pp. 240-250). Although I do not deny the reality of cross-fertilisation at the French-Anglophone interface, my point was to elucidate that quite often, the borrowed questions, concepts, or methods develop a 'life of their own' in their new cognitive environment and are put to use in rather different ways. It is indispensable, in my view, that we recognize this dynamic and are aware of it.

As a related note, the fact that the divide is perhaps not so much seen as an important issue anymore by the participants themselves is probably an outcome of more general transformations which have affected Palaeolithic research in the last decade or so. Modern scientific practice in the field tends to be hyper-pragmatic. Fighting intellectual battles has become largely anachronistic and the focus now lies on pragmatically integrating different lines of analysis within interdisciplinary, and often international, teams of researchers. In this way, scholars may contribute to multiple papers which, strictly speaking, cannot be consolidated conceptually. This modern situation, perhaps more than before, therefore demands the careful investigation of the sociological and historical context of each scholarly production. However, this situation does not imply that epistemological differences in lithic research have become unreal, nor does it show that approaches are becoming increasingly 'pluralistic.'

Why have you not paid more attention to the careful and comprehensive *definition* of what you mean by 'lithic research'?

Because any attempt to do so would have undermined my global argument. Understandings of lithic research are just as variable as conceptions of 'technology' and 'knowledge', and it is in fact the whole point of the present study to bring to light that the four world hypotheses support divergent understandings of these notions, 'lithic research' being no exception. The relevant aspects are explicitly touched upon in Chapter 1 and discussed extensively in Chapter 6.

A pragmatic understanding of lithic research, as provided at the outset of this study (see 'Key notions'), must hence suffice as a starting point of analysis.

Why does the analysis feature allegedly Anglophone scholars who are neither English nor American?

The two spheres of scholarly practice are not defined by shared nationality or exclusively in terms of the current working environment of individuals. Rather, 'French' and 'Anglophone' simply denote 'communities of thought' (*sensu* Fleck 1935 [1979]; cf. Chapter 1) and the attribution of individual researchers is based on their early education, their intellectual legacy, their entanglement with either of the two discursive formations, and their current role and impact in the same (cf. **Appendix I.1**). The geographic mobility of scholars is simply part of the difference between the two systems of practice and thought. The various sociograms included in **Appendix I.1** further illustrate this circumstance and, among other things, allow for a comparative analysis of differential levels of intra-tradition mobility that varying socio-historical research frameworks afford.

Is it not a problem that the work of some researchers can be tied to a specific world hypothesis with relative ease, while the work of others is much more difficult to attribute to a particular canon of structural categories?

Not at all. In general, this situation simply highlights that the relationship between individual thought and collective thought is complex in science, and that research has to operate within a 'mangle of practice' (Pickering 1995). The point is that a concern with world hypotheses is a concern 'with issues, rather than men' (cf. Pepper 1942: back of the book). World hypotheses operate beyond individual preferences, motives, and convictions. Different people may contribute differently and at different times to different world hypotheses – a point that I explicitly discuss in my analysis (Chapter 6: p. 251f.); some researchers also tend to be more eclectic than others (cf. Chapter 6: pp. 238-240; see also next question). By recognising the non-identity of people and world hypotheses, I give a *place* to scholarly action and acknowledge that individuals have the capacity to make a real difference in the advancement of the cognitive systems they adopt. This also shows that individuals are not completely and utterly at the mercy of world theories – an important point if one wishes to avoid blunt reductionism.

Why this focus on individual world hypotheses? Isn't the real problem that everybody is to some extent eclectic and consequently brings to bear hybrid cognitive resources?

Yes and no. There is no doubt that research often tends to be eclectic, but it is equally true that different scholars and lager 'schools of research' borrow to varying degrees from the different world theories (cf. Chapter 2: pp. 63-67; Chapter 6: pp. 238-240; Afterword: p. 268). Many scholars even reject particular world theories – sometimes more explicitly, sometimes less explicitly. Focusing on eclecticism rather than on the guiding role of 'pure' world theories prevents us from understanding the differential effect of these theories, why individual researchers sometimes feel the need to alter their cognitive framing, and why particular world theories are so fiercely antagonised by some. I elucidate and illustrate these key aspects at various stages of my analysis.

There are two larger issues, however, which are crucial to take into consideration here. First, eclecticism is not *per se* a negative quality of thought, it is often an important locus of discovery and conceptual innovation. The combination and pseudo-integration of structural categories that eclectic approaches offer can lead to crucial re-interpretations and refinements of these categories. Similarly, new questions and methodologies may be discovered in this way. In general, eclecticism *forces* some kind of synthesis which, in turn, may unlock something new or dismantle previously unrecognised theoretical needs. Secondly, recognising the value of 'purity' with regards to world hypotheses helps to understand cognitive advances, confusions, and difficulties which would otherwise remain puzzling. Pepper's (1942) original argument was that a marriage of two counteracting 'root metaphors' would inevitably lead to some conflict among interpretive categories and thus ultimately hamper the capacity of the respective approaches to criticise their findings without self-undermining (i.e., establish what they would consider 'true' without serious internal inconsistency). Cognitive progress can hence be defined as the overcoming of intrinsic conceptual conflicts by rendering a cognitive system more and more coherent; this is also a remedy against unconstraint relativism. Hence, the more general point is that mentioned features of scientific practice, arguably, cannot be understood without invoking the notion of conceptual 'purity'.

The implication is that some cognitive resources should be reserved for refining and cultivating the structural categories of each world hypotheses. The only reason why this point was not emphasised more strongly in the analysis is that the *plurality* of world hypotheses appeared to be a more pressing concern given the current state of lithic research.

Are 'integrative' world theories mono-causal and 'dispersive' theories multi-causal?

No, this is a common misconception. The difference between 'integrative' and 'dispersive' has nothing to do with the spread of determination, let alone with 'causality' which is a concept only fully embraced by 'mechanism.' Rather, the distinction calls to attention the prejudiced structure of reality and the overall *strength* and *importance* of determination that goes along with it. Because 'integrative' theories consider the world as much stronger determined than 'dispersive' theories commonly do, the former have less trouble to regard some facts as irrelevant than the latter. Dispersivity, by contrast, especially in 'contextualism,' can imply an indecisiveness about the direction, location, and/or orderliness of determinative relationships. 'Integrative' theories may consequently be mono- and multi-causal at the same time, but they typically stress the significance of determination as well as its (temporal) structure. A classic example is provided by the interpretation of 'history' in 'contextualism' and 'organicism.' For the former, history is typically all about *contingency* and various historical contexts are regarded to co-exist or follow up on each other in rather 'loose' fashion; for the latter, by contrast, history denotes a *determinative process* during which counteracting micro-contexts are resolved into a coherent organic whole – in other words, the various historical contexts are shown to represent effective stages of long-term becoming (cf. Chapter 2).

Having said this, the recognition of multi-causality, especially paired with the notion of distributed agency, is more likely to promote 'dispersive' treatments of evidence, but this link is by no means a necessary one.

Why is the historical and inter-personal context of the invoked case studies not explicitly discussed?

Because the focus of this study was systematic, not historical (cf. e.g., Cucen 2017 for some aspects of this distinction). For relevant historical background information feeding into the selection of case studies, the reader is referred to **Appendix III.4**.

What are the implications of the promoted perspective for our understanding of disciplinary history?

Macro-historically, Pepper's perspective allows us to recognise that the French-Anglophone divide has matured only recently, i.e., between the 1960s and 1980s. Before this period of transition, both research spheres were arguably anchored in 'formistic' thought – in the French case probably complemented by a distinct 'organicistic' element. The development of the various 'New' archaeologies including *Paleoanthropology* would then trigger a marked shift towards 'mechanistic' reasoning in the Anglophone world – creating the contemporary configuration of 'formism' and 'mechanism.' The emergence of *« Ethnologie préhistoire »* and *« Technologie préhistoire »* has re-oriented lithic research in France towards 'contextualistic' inquiry – a trend that was recently supplemented by re-invigorating the 'organicistic' heritage of the 'Early' Leroi-Gourhan and others. Needless to say, this emerging 'macro-vision' of the parting of ways between French and Anglophone approaches in Palaeolithic archaeology must be further substantiated by future historical and epistemological research.

Is the division you outline not simply a reiteration of the old chasm between 'processualism' and 'post-processualism'?

No. These two labels only circumscribe theoretical and conceptual developments in the Anglophone world; although the division between 'processualism' and 'post-processualism' probably re-produces the same separation of world theories as the French-Anglophone divide, the French side has come to implement both 'contextualism' and 'organicism' in rather different ways than Anglophone 'post-processualists' have done. The central point is that 'post-processualism' should be understood as a specific *historical manifestation* of 'synthetic' thought, but is – as several French scholars have emphasised on multiple occasions – 'not bound to happen everywhere' (e.g., Coudart 1999). The polarity between 'processualism' and 'post-processualism' thus describes the internal dynamics of wider archaeological debates in the Anglophone research sphere (of course transcending the boundaries of Palaeolithic archaeology), yet fails to capture the particular dynamics characterising the discursive field of French « *Préhistoire* ». That most Anglophone lithic research retains a distinct 'processual' touch is simply owned to the fact that Palaeolithic research developed out of the respective socio-historical and intellectual substrate in the Anglophone world.

Does the advocated interpretation of the French-Anglophone divide not foster relativism and 'everything-goes' attitudes?

Only if some of the central lessons of this study are overlooked. The proposed relativism is *constrained* and *well-defined*. There is not an infinite number of tenable perspectives but only four, and each of them brings into play its own internal standards and logic of reasoning (see esp. Chapter 2). In this way, the promoted view steadfastly counters aspirations from epistemological anarchism, defusing the 'spectre of relativism' once and for all.

Does the promoted perspective not render the involved parties *immune* to critique?

No. The bottom line is merely that each of the four world hypotheses has its legit *raison d'être*. Individual approaches can still, and arguably much more effectively, criticised by calling upon the internal standards of each cognitive framework (cf. Chapter 1: p. 32; Chapter 2: p. 44f.). It is also possible to criticise approaches in terms of their eclecticism, but this point needs to demonstrated and carefully argued for. In general, there is still plenty of room for applications of particular world theories being more successful or productive than others. It is also important to stress that even though I have argued that 'signature critique' should generally be avoided, the latter often helps in identifying the more general, structural weaknesses of the four world theories (see **Appendix II.2**: esp. p. 429).

Can you give an example for a practical implication of the present study? How can scholars come up with better approaches?

The first step is to self-consciously identify where one's cognitive preference or commitment lies. Researchers can then reflect on the interpretive potentials of the associated structural categories – for instance by summoning new metaphors or fields of association – and the relationships between various categories. This should of course not be done in the abstract, but always with a particular problem-context in mind. The challenge is to pinpoint productive re-interpretations of the respective structural categories or root metaphors given particular object-matters.

Another strategy would be to search for internal conceptual admixture and/or inconsistency. An example is the idea of the ecological 'niche', which a die-hard mechanist should probably discard since the concept is 'formistic' in essence: it implies a quasi-eternal, stable place in nature that can generally be defined in terms of necessary and sufficient conditions.

As detailed in Chapter 6, however, one should not only concentrate on oneself. Other cognitive frameworks may be more productive on other cognitive frontiers. The main challenge, then, is to detect these promising concepts and to translate them in a problem-oriented manner into one's own system of practice.

What can we expect for other national or transnational research traditions?

There are two broader possibilities. Other collective entities of lithic research may be guided by different configurations of world hypotheses than those encountered at the French-Anglophone interface (cf. Chapter 6: p. 265). Alternatively, they may draw on the same world theories as French or Anglophone approaches, but have come to cultivate deviating interpretations of the respective 'root metaphors' and consequently mobilise different variants of the same structural categories or even different variants of the same theories (e.g. 'immanent' vs. 'transcendent' formism, 'discrete' vs. 'consolidated' mechanism); it is also possible that the same structural categories assume varying epistemic roles or become differentially significant for the wider cognitive project advocated. The point is that Pepper gives us the means to systematically examine these issues and to test some of the attendant expectations.

Is the analysis not self-undermining since it ultimately relies on a particular world hypothesis itself?

The implication of my analysis is indeed that there can be no neutral cognitive ground and that every viewpoint is necessarily situated. My own strategy can probably be described as 'meta-contextualistic' and I have clearly given preference to the qualitative exploration of the French-Anglophone divide. But this is not self-defeating since I deliberately acknowledge this deficiency, that my perspective is partial and probably colours the divide in a particular manner. However, this analytical choice does not preclude or curtail the investigation of the divide in other terms, e.g. by means of computational-statistical methods. My approach does not endeavour to deliver the final answer, but instead calls for further investigation – the present study is simply the beginning, not the end. This being said, I nevertheless predict that 'formistic,' 'mechanistic,' and 'organicisitic' inquiry would substantiate the nature and reality of the outlined division, even though these inquiries would of course reveal additional details and perhaps foreground other issues. Only future research can tell whether I am right or wrong.