# Methodological Anarchism Against Interdisciplinary Archaeology

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### Abstract

While interdisciplinarity has definitely enriched archaeological research, especially in light of what has been called the "Third Science Revolution," little has changed in terms of epistemology and methodology in archaeology. In fact, what counts as interdisciplinary research in archaeology nowadays is usually the application of natural science techniques to data that have been recovered archaeologically. Nevertheless, this form of archaeological research has become the gold standard, monopolising funding at various scales.

Interdisciplinarity at its most basic simply means the collaboration between different disciplines. If this is true, one should ask why the term "interdisciplinary" is usually reserved for the combination of archaeology and the natural sciences, rather than the vast panoply of collaborative efforts in archaeology, such as those between art and archaeology or philosophy and archaeology? The aim of this paper is to argue that current interdisciplinary research is theoretically impoverished and non-transgressive. In fact, current interdisciplinary research relies on very basic methods and premises, oftentimes relying only on C14 dates or bone material recovered by standard archaeological methods.

Rather than interdisciplinary research, it might make sense to think in terms of methodological anarchism. As the name indicates, methodological anarchism focuses more on methodologies than disciplines, giving priority to the different ways that the archaeological past can be explained. Rather than following strict formulas, as some interdisciplinary research tends to do, methodological anarchism advocates flexibility and choice of the methods that provide multi-faceted understandings of past reality.

### Keywords

Interdisciplinarity, methodology, pluralism, flexibility, anarchism

### Zusammenfassung

Während Interdisziplinarität die archäologische Forschung zweifellos bereichert hat, insbesondere im Lichte dessen, was als *Third Science Revolution* bezeichnet wird, hat sich in Bezug auf die Erkenntnistheorie und Methodologie in der Archäologie wenig geändert. In der Tat reduziert sich das, was heute als interdisziplinäre Forschung in der Archäologie gilt, in der Regel auf die Anwendung naturwissenschaftlicher Techniken bei der Analyse archäologisch gewonnene Daten. Diese Form der archäologischen Forschung ist zum Goldstandard geworden und monopolisiert die Finanzierung archäologischer Forschungsprojekte auf verschiedenen Ebenen.

Interdisziplinarität bedeutet im Grunde genommen nichts anderes als die Zusammenarbeit zwischen verschiedenen Disziplinen. Wenn dies zutrifft, stellt sich die Frage, warum der Begriff ‚interdisziplinär‘ in der Regel für die Kombination von Archäologie und Naturwissenschaften reserviert ist und nicht für die breite Palette von Kooperationen von Archäologie und zum Beispiel der Kunst oder der Philosophie? Die derzeitige interdisziplinäre Forschung ist theoretisch verarmt und überschreitet keine Grenzen. Tatsächlich beruht die derzeitige interdisziplinäre Forschung auf sehr einfachen Methoden und Prämissen und stützt sich oft nur auf die Analyse von C14-Daten oder Knochenmaterial, das mit archäologischen Standardmethoden geborgen wurde.

Anstelle von interdisziplinärer Forschung könnte es sinnvoll sein, in Begriffen des methodologischen Anarchismus zu denken. Wie der Name schon sagt, konzentriert sich der methodologische Anarchismus mehr auf die Methoden als auf die Disziplinen und räumt den verschiedenen Möglichkeiten, die archäologische Vergangenheit zu erklären, Priorität ein. Anstatt strengen Formeln zu folgen, wie es manche interdisziplinäre Forschung zu tun pflegt, befürwortet der methodologische Anarchismus Flexibilität und die Wahl von Methoden, die ein facettenreiches Verständnis der vergangenen Realität ermöglichen.

### Schlagwörter

Interdisziplinarität, Methodologie, Pluralismus, Flexibilität, Anarchismus

### Is Archaeology Truly Interdisciplinary, or Has It Never Been?

During the 2020 European Association of Archaeologists annual meeting, there were around 160 sessions, and of these, around 30 referred to advances in "interdisciplinary," "cross-disciplinary," "transdisciplinary," or "multi-disciplinary" research. Going through the list of sessions, one cannot but celebrate how far archaeology has come when it comes to interdisciplinary research. However, not much is clear when it comes to what interdisciplinary research actually entails. In a colloquial sense, interdisciplinarity (and its variants) simply means collaboration between disciplines (Jacobs and Frickel 2009), but how and in what ways does this operate in archaeology?

Interdisciplinarity and its variants have been recently discussed in archaeology (Ion 2017; Nilsson Stutz 2018; Díaz-Andreu and Coltofean-Arizancu 2021), and some brief definitions can be put forward. Subscribing to Julie Klein's definitions (2017), Margarita Díaz-Andreu and Laura Coltofean-Arizancu (2021) state that inter-disciplinarity at its most basic means the interaction between two or more disciplines. However, a closer look reveals different types of interdisciplinarity. For instance, there can be shared interdisciplinarity, where a complex problem is tackled by different disciplines, although this does not necessarily entail collaboration; in cooperative interdisciplinarity, problems are tackled together by different disciplines; in methodological interdisciplinarity, the methods and theories of different disciplines are shared to improve quality of results; whereas in theoretical inter-disciplinarity, the conceptual models and epistemologies of different disciplines are expanded in order to create a more seamless form of collaboration across different disciplines (Díaz-Andreu and Coltofean-Arizancu 2021: 3). In addition, one can also differentiate multidisciplinary research, which involves the stacking of disciplines, although these disciplines retain their identity, since their knowledge is consulted but not necessarily integrated. As to pluridisciplinarity, which is quite similar to multidisciplinarity, the disciplines involved tend to have some degree of connection, such as chemistry and physics, thus forming their own knowledge subsystem. Finally, trans-disciplinarity, as the name indicates, transgresses the very notion of discipline, and usually engages in ideas that transcend disciplines, such as Marxist theory or feminist theory, allowing it to address issues that go considerably beyond the boundaries set by disciplines (Díaz-Andreu and Coltofean-Arizancu 2021: 4).

Based on these definitions, it seems safe to say that most archaeology practised today is either inter-, multi-, pluri-, or transdisciplinary. In fact, Díaz-Andreu and Coltofean-Arizancu explain, histories of archaeology tend to treat the discipline in isolation, as if it has not been influenced by many others (2021: 2). If anything, an argument can be made that archaeology is the ultimate interdisciplinary project, since it is historically built up from a diversity of fields, such as ancient history, geology, and anthropology.

But when interdisciplinarity is addressed, sitting through the countless sessions on inter-, multi-, pluri-, and trans-disciplinarity in archaeological conferences reveals that in archaeology interdisciplinarity and its variants denotes a very simple and theoretically bare form of practicing archaeology. I want to start this paper precisely on this note and expose the theoretical poverty of the concept of interdisciplinarity and its variants. As Alexandra Ion contends, archaeology is still far from being a *truly* interdisciplinary science (2017: 193), since it relies on a rather restricted set of methods, even though those methods do originate from different disciplines. Furthermore, at an epistemological level, much of the interdisciplinarity in archaeology is formulaic (Nilsson Stutz 2018: 51), favour-ing very standardised methods, primarily those used in archaeological science. This leads to a very distorted form of interdisciplinarity (Sørensen 2017), one that heavily favours the natural sciences. Of even more concern is the

fact that this type of research has become the gold standard of transgressive and innovative research, the staple of what Kristian Kristiansen (2014) has called the "Third Science Revolution" in archaeology.

The aim of this paper is to challenge the new interdisciplinary status quo. At face value, the interdisciplinary attitude in archaeology today might appear to be open and inclusive to new ideas, but that is not always true; interdisciplinarity in current archaeology tends to be very narrow and oversimplified – it is like having a very large buffet at your disposal yet only choosing the same two dishes all the time, while ignoring every other dish available. In short, it seems that the interdisciplinary status quo in archaeology is reliant on a very basic standard – interdisciplinarity must involve the recovery or processing of data through some scientific means. This is what interdisciplinarity in archaeology seems to boil down to. Bear in mind that this paper does not suggest that one should abandon this type of research; what this paper aims toward is demonstrating that archaeological research can in fact be much more diverse, inclusive, and distinctive. But for us to recognize this, it is necessary to embrace some form of methodological anarchy.

### The Theoretical Poverty of Interdisciplinarity in Archaeology

The different forms of interdisciplinarity and its variants discussed by Díaz-Andreu and Coltofean-Arizancu do describe most types of archaeological research with some fidelity, but they also leave some information out. In archaeology, the term interdisciplinarity and its variants express more than just different types of research; they denote a dissociation from previous, perhaps more "conventional" but outdated types of research, such as the simple collection and sampling of archaeological data, which is often described as culture-historical or antiquarian. I use the expression culture history here not in the cultural normative sense that Binford attributes to it (Binford 1965; Lyman and O'Brien 2004), but as the process of recovering data and building formal databases that describe the general patterns of regularities across a period and region (Clarke 1968: 20–23). In the same way, I also use antiquarianism to describe the process of cataloguing and publishing of data.

Systematic surveys, excavation, creation of typologies, and cataloguing are just some of the most basic forms of doing archaeology, and even though many of these practices now engage with advanced technologies and methods (e.g., geomagnetic prospection, GIS), they are not commonly conceived as interdisciplinary research. Oftentimes, the practice of simply recovering, cataloguing, and publishing of this data is derogatorily defined as outdated (Hofmann and Stockhammer 2017). But there is nothing inherently wrong with culture-historical and/or antiquarian research; these remain important practices in archaeology around the world today (Veit 2017). In contrast, a paradigmatic example of multidisciplinary research is ancient population genomic studies (e.g., Haak et al. 2015; Olalde et al. 2018; Olalde et al. 2019); these studies fit the description of multidisciplinary research perfectly, since they combine two distinct disciplines, archaeology and genetics, which rely on vastly different methods. However, a closer look demonstrates that the process of cooperation between these disciplines is remarkably simple: archaeology recovers material, which is then analysed through genetic methods. Bear in mind that from the perspective of each discipline, the work conducted is quite complex: archaeological excavation is not simply digging holes looking for bones, nor is genetics just the simple process of putting bones in a machine and pressing some buttons. It is *the cooperation between the disciplines that is simple*, not the actual work itself. Furthermore, the bones that serve as the basis for genomic studies, were recovered through standard culture-historical/catalogue type of research. In this example, archaeology just does what it has always done, which is recovering data through excavation techniques, with geneticists analysing the data to map a genomic history. While some criticism can be leveled at this type of research (Furholt 2017; Frieman and Hofmann 2019; Hakenbeck 2019), the results are nevertheless spectacular. Genomic data was something that was virtually absent in archaeology until the last decades, and this new information has proven itself valuable to our understanding of the past.

Following a similar path, cumulative probability distributions of calibrated radiocarbon dates have become one of the prime methods for understanding past demography in recent years (Riede 2009; Collard et al. 2010; Williams 2012), as an example of what Kristiansen (2014) has called "Big Data" research and the intersection of scientific approaches and archaeology. In general, the idea behind this method is that the summation of calibrated radiocarbon dates can serve as a proxy for past population dynamics. At face-value, this method is sound and has contributed crucial information to our understanding of population growth and decline, despite some reservations as to its efficacy (Contreras and Meadows 2014). But just like genomic studies, archaeology plays a rather mute role, in that all this method is doing is collating and modelling radiocarbon dates obtained from conventional

archaeological research. Just like genomic studies, there is nothing inherently wrong with this type of study, but it does show a rather simple and formulaic form of multidisciplinary research.

The problems of relying too heavily on this type of interdisciplinary research have been highlighted multiple times (Cunningham and MacEachern 2016; Sørensen 2017; Nilsson Stutz 2018; Ribeiro 2019, 2021a), and we must be careful with the political and economic impact that this research can have when it comes to access to funding (González-Ruibal 2014; Díaz-Andreu and Coltofean-Arizancu 2021: 15; Ribeiro 2021a), but to reiterate, there is nothing inherently wrong with this type of research.

But nevertheless, one should ask why this type of research is considered the standard of interdisciplinarity in archaeology. For example, Doug Bailey's work involving art and archaeology (2017, 2020) or my own work involving archaeology and philosophy (2021b) are not usually considered interdisciplinary, nor do they really fit the epistemological moulds defined by archaeological practices. Despite critique of scientific modes of explanation (Kelley and Hanen 1988; Wylie 1989), archaeology still operates largely through a scientific mentality (Vanpool and Vanpool 1999). The act of adding scientific methods to archaeology, while enriching it, also naturalizes the arbitrariness of this practice, creating a doxic system that is difficult to overcome (Bourdieu 1977: 164). It is not that art or philosophy cannot be added to archaeology, it is more that doing this falls short in terms of the doxic rules concerning what counts as interdisciplinary science.

Ironically, interdisciplinarity is making archaeology less interdisciplinary. Since the 1990s, the field has fragmented into a plurality of mutually exclusive discourses (Kristiansen 2004; Gardner and Cochrane 2011). While it might denote diversity of discourses, this fragmentation is also a reflection of different cliques insulating themselves in their own ivory towers. The biggest of these towers is the one that accommodates archaeological science. This is the paradox of interdisciplinarity; the use of this term allows archaeology to demonstrate that it is going beyond its own boundaries, but at the same time, interdisciplinarity streamlines archaeology into a set of stock methods, such as those involving genetic, isotopic, or dating material (Ion 2017: 193). With advances in technology and science, archaeology can add more methods in the future, but nothing is stopping "interdisciplinarity" from streamlining these methods ever further.

Klein's (2017) definitions of inter-, multi-, pluri-, and transdisciplinary are useful for thinking of research in terms of single tasks, problems, objectives that require more than one discipline, or require transcending the very concept of discipline, problems, and tasks, such as dealing with climate change or global inequality. Underlining this type of thinking is the idea of a single coherent discourse concerning a problem or a certain phenomenon. In archaeology, understanding past dietary strategies, population dynamics, or migratory behaviour are objectives that benefit from the help of natural scientific methods; however, these methods help produce a singular discourse about them.

But what if the aim is not to produce a singular coherent discourse? For example, in the study of migratory behaviour, one could use the data generated by genomic studies in order to gain a general idea of migrations during prehistoric periods in Europe (e.g., Haak et al. 2015; Olalde et al. 2018; Olalde et al. 2019). They present a rather rough picture of migratory patterns, but these can be improved through the development of more advanced migratory models, designed with prehistoric groups in mind (Cameron 2013). The problem is that none of these methods can answer *what migration truly is and what it represented in the past*. What do I mean by this? If a German citizen living in Kiel decides to move 900 km south, they would find themselves somewhere close to Munich. 900 km is a long distance, but nevertheless, the German citizen would not be considered a migrant. If a Portuguese person living in the Algarve, on the other hand, were to move 900 km south, they would find themselves somewhere in Morocco. Both cases are acts of migration, but the qualitative understanding of the migratory act changes depending on what type of boundary one crosses (Van Gennep 1960), which, in our modern day and age, is the national border. Our understanding of migration is shaped by the invention of modern institutions such as the nation state, among many others. Furthermore, modern borders are more than just the lines we see on the map: they also exist, in a way, at airports and embassies. This has an effect on how we conceive political space (Lefebvre 1991: 8) and how these affect identity. When discussing migration, new ecosystems and areas of contact between different communities could have generated new forms of negotiating identity, and if communities merged, this would have required negotiating territory and exogamy rules. At face value, given the lack of state borders in the past, migration should have been institutionally easier, but upon some reflection, the opposite is probably true. While the modern institution of the state creates artificial borders, there is nevertheless a unified understanding of how

borders work and what is necessary to cross them (e.g., visa, passport). Thus, a complicated question arises for prehistorians: how did people in the past define "their own" and "other" territory? This might seem a rather innocuous question, but our whole perspective on migration is dependent on being able to answer it. The lack of an anthropological understanding of migration has led geneticists to use the term "migration" to denote simply population movement rather than an actual cultural phenomenon of passage (Skoglund and Mathieson 2018: 388). I understand the reluctance of geneticists to deal with migration from a cultural standpoint, but if part of their work requires archaeologists, anthropologists, and historians to cede to them material for analysis anyway, why not engage with archaeologists, anthropologists, and historians in order to understand migration in a more nuanced manner?

The discourse generated by a cultural take on migration will, of course, be of a very different sort, and the methods of analysis in order to gain this perspective will require a different scientific perspective. To quote Tim Flohr Sørensen, "[a]rchaeology may have a particular need for admitting to and owning up to its inevitably uncertain epistemology" (2019: 104). While the archaeological sciences do produce what might seem a more established, objective, and authoritative form of discourse, a conjectural discourse (Ginzburg 2012) could also enrich our understanding of the past. But in order to do this, we must go beyond the way interdisciplinary research is commonly practiced in archaeology.

### From Methodological Pluralism to Methodological Anarchism

Immanuel Wallerstein defines disciplines as social constructs whose origins can be found in the historical systems in which they were conceived; additionally, disciplines are institutions with complex material forms, such as university buildings and titles of journals (Wallerstein 2003: 453). Ultimately, while there are crucial differences between disciplines, these differences are also somewhat arbitrary. Following Pierre Bourdieu (1977), it can be said that the boundaries of disciplines create subconscious dispositions, generating behaviours that only exist because the boundaries create them. The archaeologist who wishes to engage in art or philosophy stumbles upon difficulties, not because it is impossible for an archaeologist to be an artist or a philosopher, but because disciplines have established domain-specific areas in which a scholar is expected to become specialised. But not too long ago, it was common to find thinkers transgressing disciplinary boundaries and excelling in multiple areas: Cornelius Castoriadis was a Greek-French scholar born in 1922, who was a very influential voice in philosophy, psychoanalysis, and economics; similarly, Kojin Karatani, has excelled in economics, literary criticism, and philosophy. Karatani in particular engages with all three disciplines at the same time. His book *History and Repetition* (2012) is an engagement with Marx's idea that history repeats itself, in a period when the world had reached the controversially proclaimed "end of history" (Fukuyama 1992). Rather than the end, Karatani argues that history undergoes a process of repetition, which he recognized in Japan's economic and political history and which he analysed through Japanese literature, such as the work of Kenzaburo Oe and Haruki Murakami. What Karatani performs is not interdisciplinary research; it is research that is methodologically fluid and flexible. It is difficult to tell, based on his writings, whether he is intentionally aware that he is transgressing disciplines at all, but either way, his work generates a discourse that is unique. In the process, Karatani opens up new ways of looking at the world that has been popularised in a wide array of fields, most of which he never specialised in, such as geography, architecture, and politics.

While Karatani has had a fascinating and successful career, at no point am I suggesting that archaeologists should mimic his scholarship; his work is of a more reflective nature and his methods and ideas would not translate well into archaeology.[1] What we can and should mimic in archaeology is the spirit that guided his career. Unlike Karatani's discourse, which is primarily conceptual, archaeological discourse aims to answer questions about past (and to an extent, present) societies. With this in mind, we must think of the various discourses that fulfil this need. For the sake of discussion, we can think of multiple discourses in different ways, and here we can start from the more moderate methodological pluralism of Georg von Wright (1971), moving on to the work of Michael

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1   However, Karatani's critical reading of Marx through Kant and vice versa in *Transcritique* (2003) and his discussion of Marx's modes of production in terms of exchange in *The Structure of World History* (2014) have crucial repercussions on our understanding of exchange in anarchist economies.

Oakeshott (2015 [1933]), and from there to the more radical methodological anarchism of Paul Feyerabend (2015 [1975]).

Picking up the distinction between explanation (*Erklärung*) and understanding (*Verstehen*), von Wright argues that the disciplines that provide these two types of scientific discourse cannot be collapsed into one another. As he states, the sciences dedicated to explanations, most notably the natural sciences, operate according to a causal logic, and in spite of the variety of how causal explanations are expressed in the sciences, von Wright demonstrates that the teleological form of explanation, that is to say, an explanation based on the *purpose of behaviours*, is not reducible to causes. This was also mentioned by Charles Taylor, when he pointed out that causal explanations of behaviour were very limited, as none of them could provide an understanding as to why humans and animals behave in certain ways (1964). Unlike causal forms of explanation, which tend to be primarily reductionist (Rosenberg 2001), teleological explanations rely on understanding the context of intentional action. That is why disciplines such as history and anthropology often employ teleological explanations, since these disciplines aim to uncover the context in which the behaviour of past humans occurs (Ribeiro 2018, 2019). Alva Noë provides a great example: you cannot understand money or dancing by putting banknotes under a microscope or observing the muscles of dancers (Noë 2009).

In archaeology, the streamlined interdisciplinary approaches tend to operate exclusively with causal explanation, making them extremely limited in understanding topics such as past value systems or ritual behaviours. These two topics are still best understood via approaches such as Marxist theory (e.g., Karatani 2014), theories of value (Graeber 2001), and anthropology of ritual (Bell 1992, 1997), to name just a few. Once again, engaging with these theories in archaeology is not usually considered interdisciplinary research.

Much like Droysen, Dilthey, and Weber, the arguments by von Wright are a renunciation of positivism and neopositivism and the idea that science could be reduced to a single methodology, and it is with this spirit that von Wright argued for the distinction between explanation and understanding. But at a different level, it could be suggested that knowledge, both lay and scientific, can go beyond the methodologies of explanation and understanding. Michael Oakeshott, for instance, suggests that our experience of the world can be recognized as three distinct modes (2015 [1933]). While similar to von Wright's differentiation of scientific explanation and understanding, Oakeshott goes beyond it by differentiating a scientific, a practical, and a historical mode. The scientific mode of experience requires abandoning the world of perception and presupposing the existence of an external and objective world (2015: 131–132). By resorting to the legacy of Descartes, Oakeshott states that central to science is the universality of the scientific method, which is what allows for a communicable form of experience (2015: 135). Oakeshott also highlights that a large part of the communicable experience involved in science is of a quantitative type (2015: 135–136). This is also an argument made by Quentin Meillassoux, noting that the quantitative properties of reality are the only ones that exist outside human perception (i.e., non-correlated to human thought) and, by extension, can be considered scientifically valid (Meillassoux 2008). In archaeology, many of the interdisciplinary approaches mentioned above follow exactly this presupposition (Ribeiro 2019, 2021b). But Oakeshott also describes a practical mode of experiencing reality, and this mode has some overlap with the discussion on teleology (i.e., purpose) described by von Wright. As Oakeshott states, practice is about volition, intuition, feelings, and opinions (2015: 197), which ultimately guide the action of people. Practices are learned and accumulate as the life experience of people. One could also argue that to an extent practices are ultimately ethical in character (Ribeiro 2022). Many of the ideas about practical experience in Oakeshott have been discussed in archaeology through agency and practice theory (Bourdieu 1977; Giddens 1984; Lave and Wenger 1991; Schatzki 1996; Wenger 1998), which has formed a set of discourses that are less easily accommodated by the more scientific one of archaeological science (see Kristiansen 2004; Stanton 2004; Arkush 2011; Moro Abadía 2017). Finally, Oakeshott also describes a historical mode that deals with the course of successive events. Now, successive events are not merely the temporal accumulation of causes and effects, nor is history the pure description of accidental happenings in chronological order; historical discourse is above all its own form of explanation, but one that requires no external cause (Oakeshott 2015: 102, 108). What does he mean by this? Unlike scientific explanations and theories (such as Marxist theory or the theory of structuration), history does not rely on general causes in order to explain; rather, history provides descriptions of action that are so detailed and coherent that additional explanation becomes unnecessary (Oakeshott 2015: 109). Vincent Descombes (2001), also writing on this topic, has described a similar idea, stating that there is an intelligibility to historical composition. For every comprehensible episode in a historical description, one must assume certain events to have happened that led to the episode.

For instance, if a person remembers going for a swim, it must be assumed that the person did in fact go for a swim in the past (Descombes 2001: 182–183).

Oakeshott's tripartite system of modes of experience was published almost one hundred years ago and many of his ideas, while sensible at the time, have been expanded and some even superseded. The idea, of course, is not to accept the three modes of experience as law, but rather to view these modes in light of our current discussion. In archaeology, the different discourses can be elegantly adapted to how archaeology operates, as a discipline that addresses the past through scientific methods, through the study of past practices, and through a historical perspective. At this point, we can debate whether this is not just inter-, multi-, pluri-, and transdisciplinarity in disguise. Not necessarily; while interdisciplinarity and its variants are discipline-focused, Oakeshott's modes of experience are about different types of knowledge regardless of the disciplines that produce them. Archaeology could, for instance, address a topic such as migration according to the three modes without necessarily relying on different disciplines, although the knowledge produced by different disciplines would nevertheless be helpful. Similarly, in certain types of research you can have de facto interdisciplinarity while relying on a single mode. For example, socio-environmental studies of past societies often rely on historical documentation, but this documentation is only useful when reduced to proxies that can be compared to environmental data (e.g., Kaniewski et al. 2012). In cases such as these, the aim is *consilience,* that is to say, different disciplines providing independent lines of evidence in support of or against a single hypothesis. While this is de facto interdisciplinary research, the mode of experience is exclusively of a scientific kind.

Finally, of crucial importance to our discussion is Paul Feyerabend's *Against Method* (2010 [1975]). At its most extreme, *Against Method* is considered a direct critique of the idea that there is such a thing as a scientific method, but the arguments contained within the book are considerably more moderate than one would expect. Feyerabend produces two arguments of interest to us: the first one serves as the main case-study of the book, which focuses on Galileo's heliocentric model. According to Feyerabend, most of the methodological standards of what qualifies as accurate and objective science were not followed by Galileo when he conceived the heliocentric cosmology. In fact, had he followed what in the twentieth century is considered correct methodological standards of science, Galileo would have never been able to conceive the heliocentric model. As Feyerabend notes, this model depended on several ad hoc connections and observations that have no scientific validity but that were very helpful to Galileo at the time (Feyerabend 2010: 116). If anything, the genius of Galileo resides not in the fact that he followed strict scientific procedures, but on the contrary, it was precisely by recognizing the limits of science and having a humorous, elegant, and flexible attitude to science that allowed Galileo to be successful (Feyerabend 2010: 121).

The second argument that is of interest to us is that science is at its best when it is anarchic, or to use the expression by Feyerabend, "anything goes" (2010: 12). In a similar vein to von Wright, this is an argument against the monistic view of science that was popularised by neopositivism during the first half of the twentieth century. But there is an important aspect about Feyerabend's critique of positivism, namely the circular reasoning involved in how scientific procedures are justified. As Feyerabend explains, to state that a method or procedure can be dismissed because it is non-scientific involves a dogma, since it is scientists themselves who decide what counts as scientific or non-scientific (2010: xx). Following the same reasoning, archaeologists could argue that Bailey's (2017, 2020) work with art and archaeology is neither interdisciplinary nor is it archaeological at all and dismiss it as some sort of pseudo-science or pseudo-archaeology. The moral lesson from *Against Method* is that conducting science in a prescribed manner and producing successful results cannot be a justification of why we should continue to follow the same standards and procedures. What might work in one scenario might not work in another. Furthermore, completely contrasting methodologies can produce wildly different discourses yet still be considered successful; ultimately, there is no way to gauge which "success" is better.

Now, the three thinkers discussed above, George von Wright, Michael Oakeshott, and Paul Feyerabend were neither archaeologists nor were they writing in the twenty-first century, so their work must be viewed according to our times and contexts. To an extent, all three thinkers are against the idea of a monistic science or way of obtaining knowledge in general, and interdisciplinarity in archaeology is to a large extent still primarily an epistemologically monistic enterprise.

Of the three thinkers, Feyerabend's methodological anarchism is particularly interesting to our discussion on

interdisciplinarity, but some caveats must be outlined, namely concerning the relation between Feyerabend and anarchism. The first edition of *Against Method*, published in 1975, was subtitled *Outlines of an Anarchistic\* Theory of Knowledge*. Yes, the subtitle had a footnote that explained Feyerabend's conception of anarchism, which was removed from the 1988 and following editions (Hacking 2010: xiii). The reason why this subtitle and footnote existed was because the book was dedicated to Imre Lakatos, who was good friends with Feyerabend, and who had motivated him to write the book. Unfortunately, Lakatos died in 1974, the year before *Against Method* was published. Politically, Lakatos believed that Feyerabend was an anarchist. There is some truth to this, since Feyerabend did sympathise with anarchism. However, as Feyerabend explained in a letter to Lakatos in 1972, he uses the term anarchism in its more general rather than in a political sense; as a political movement, anarchism followed precepts that he was not really ready to accept (Hacking 2010: xiv). Feyerabend believed that a much better term to describe both his intellectual and political stance is Dadaism. As an art movement of the early twentieth century, the idea of Dadaism is that anything could be art, as long as the artist expresses it as such; what was important to Feyerabend was not convention but the opposite: taking convention considerably less seriously.

## Anarchist Epistemology

Feyerabend's dialogue with Lakatos shows serious concerns about the student revolt of 1968, namely the violence it involved (Motterlini 1999), so his disavowal of anarchism is not necessarily surprising. Nonetheless, his ideas are somewhat reflected by a new set of notions that have become popular in archaeology: anarchist theory. In general terms, anarchist theory has been applied to the interpretation of social structures of past and present societies (Angelbeck and Grier 2012; Angelbeck 2016; Sanger 2017), in that it recognizes that many societies followed more collaborative and non-authoritarian forms of governing than those that fill standard narratives of world history. This started with pioneering work based on the idea of heterarchy (Crumley 1995; DeMarrais 2013), which similarly recognized more flexible forms of power distribution. Additionally, some literature on anarchist theory in archaeology has also recognized the importance of anarchism from a methodological standpoint (Morgan 2015; Henry et al. 2017; Angelbeck et al. 2018; Flexner and Gonzalez-Tennant 2018). From this standpoint, anarchist theory advocates the subversion of conventional centres of power and authoritarianism in archaeology, which would affect how archaeologists behave in excavation teams and how archaeology integrates descendent communities in our research (Angelbeck et al. 2018: 1). Traditionally, anarchism is thought of in terms of chaos, but this is not exactly what anarchists in archaeology promote; the underlying idea in anarchist theory is that centralized authority is not necessarily a good position to adopt, especially for professions such as archaeology. Anarchist theory also argues against unnecessary bureaucracy and rules; as David Graeber has argued, liberalism has created a paradox, in that the more you try to fight government interference in social life, the more red tape and interference is generated (2015: 9). Anarchist theory also recommends moving beyond mainstream forms of archaeological education and publication, by embracing ideas from the punk movement, such as disavowing authoritarianism and engaging in do-it-yourself projects, such as zines (informal, self-published magazines) (Morgan 2015: 123–124).

Overall, I subscribe to this attitude, but we should also discuss anarchism in terms of knowledge production in archaeology. The work of von Wright, Oakeshott, and Feyerabend denotes the idea that there is no method of obtaining knowledge that is superior to others, only different forms of knowledge that are subject to their own internal criteria. In epistemological terms, this means that justification and truth are not subject to a singular authority.

Rather than focusing too much on the integration and collaboration between disciplines, perhaps we should also focus in interdisciplinary research on different epistemological standards. Epistemology deals with the scope, nature, and origin of knowledge and ultimately what it means to say something is true or false. To a large extent, the notion of truth is still very much understood as scientific truth, even though there are multiple ways to arrive at truth in different disciplines and even outside the university context (e.g., law).

## Conclusion

One of the inspirations for this article was investigative journalism, which I took the time to read while under lockdown during the onset of the Covid-19 pandemic. I was particularly impressed by the books *Catch and Kill* by Ronan Farrow (2019) and *Bad Blood* by John Carreyrou (2020). The first book deals with the investigation of Harvey Weinstein and the structure that he built to protect himself from lawsuits and prosecution, the second with the abuses of a Silicon Valley startup called Theranos, which promised to revolutionise the medical engineering industry. Besides the fascinating stories they tell, what struck me about both books was the jarring methods both Farrow and Carreyrou followed in order to attain the truth. Unlike archaeology, investigative journalism follows considerably more flexible standards. This is not to say that there are no rules in investigative journalism, because very strict rules do exist, especially given the nature of the accusations made by both Farrow and Carreyrou against the individuals and institutions they were investigating. But the objective of both was to get to the truth about those whom they were investigating. This type of truth, however, is not a scientific one, but nonetheless it is a truth that is as objective as scientific truth. The difference is not that investigative journalism arrives at a less valid form of truth than science, but that science tends to aim towards a more general truth, one that is transferable and can be tested or verified by more scientists.

The question we can now pose is what archaeology would look like if it followed the epistemic standards of investigative journalism? Would it still qualify as interdisciplinary? Ultimately, in archaeology we can define two tendencies in interdisciplinary research – the most prevalent one is the product of the "Third Science Revolution", that is, a streamlined form of research where natural scientific techniques are used to attain consilience. The other tendency favours the subversion of the subconscious authoritarianism of archaeological research and promotes the loosening of methodological shackles. Naturally, I cannot suggest any specific path of research, as that would contradict the anarchic spirit I commend in this paper. However, there are interesting paths that I personally would like to see explored in more depth, such as the use of literary techniques in archaeological writing, what we can learn from film theory in order to show and explain the past, or how archaeologists, besides being scientists, can also become detectives. The clues to conducting a methodologically anarchic archaeology have already been introduced (e.g., Morgan 2015; Ion 2017; Angelbeck et al. 2018; Crossland 2019; Sørensen 2019), and there is so much more we can discuss. It is now up to archaeology as a whole to decide whether to continue even further along the path of methodological streamlining or expand it to heights never before achieved.

## Acknowledgements

## Bibliography

Angelbeck, Bill. 2016. The Balance of Autonomy and Alliance in Anarchic Societies: The Organization of Defences in the Coast Salish Past. *World Archaeology* 48(1): 51–69.

Angelbeck, Bill, Lewis Borck and Matt Sanger. 2018. Anarchist Theory and Archaeology. In Claire Smith, ed.: *Encyclopedia of Global Archaeology*. Cham: Springer International Publishing.

Angelbeck, Bill and Colin Grier. 2012. Anarchism and the Archaeology of Anarchic Societies: Resistance to Centralization in the Coast Salish Region of the Pacific Northwest Coast. *Current Anthropology* 53(5): 547–587.

Arkush, Elizabeth. 2011. Explaining the Past in 2010. *American Anthropologist* 113(2): 200–212.

Bailey, Douglass W. 2017. Art/Archaeology: What Value Artistic-Archaeological Collaboration. *Journal of Contemporary Archaeology* 4(2): 246–256.

Bailey, Douglass W. 2020. Art/Archaeology: The Ineligible Project. In Douglass Bailey, Sara Navarro and Álvaro Moreira, eds.: *Ineligible: A Disruption of Artefacts and Artistic Practice*, pp. 10–25. Santo Tirso: International Museum of Contemporary Sculpture.

Bell, Catherine M. 1992. *Ritual Theory, Ritual Practice*. Oxford and New York: Oxford University Press.

Bell, Catherine M. 1997. *Ritual: Perspectives and Dimensions*. Oxford and New York: Oxford University Press.

Binford, Lewis R. 1965. Archaeological Systematics and the Study of Culture Process. *American Antiquity* 31(2): 203–210.

Bourdieu, Pierre. 1977. *Outline of a Theory of Practice*. Cambridge and New York: Cambridge University Press.

Cameron, Catherine M. 2013. How People Moved among Ancient Societies: Broadening the View. *American Anthropologist* 115(2): 218–231.

Carreyrou, John. 2020. *Bad Blood: Secrets and Lies in a Silicon Valley Startup*. New York: Vintage.

Clarke, David L. 2015 [1968]. *Analytical Archaeology*. London and New York: Routledge.

Collard, Mark, Kevan Edinborough, Stephen Shennan and Mark Thomas. 2010. Radiocarbon Evidence Indicates That Migrants Introduced Farming to Britain. *Journal of Archaeological Science* 37(4): 866–870.

Contreras, Daniel A. and John Meadows. 2014. Summed Radiocarbon Calibrations as a Population Proxy: A Critical Evaluation Using a Realistic Simulation Approach. *Journal of Archaeological Science* 52: 591–608.

Crossland, Zoe. 2009. Of Clues and Signs: The Dead Body and Its Evidential Traces. *American Anthropologist* 111(1): 69–80.

Crumley, Carole L. 1995. Heterarchy and the Analysis of Complex Societies. *Archeological Papers of the American Anthropological Association* 6(1): 1–5.

Cunningham, Jerimy J. and Scott MacEachern. 2016. Ethnoarchaeology as Slow Science. *World Archaeology* 48(5): 628–641.

DeMarrais, Elizabeth. 2013. Understanding Heterarchy: Crafting and Social Projects in Pre-Hispanic Northwest Argentina. *Cambridge Archaeological Journal* 23(3): 345–362.

Descombes, Vincent. 2001. *The Mind's Provisions: A Critique of Cognitivism*. Princeton, NJ and Oxford: Princeton University Press.

Díaz-Andreu, Margarita and Laura Coltofean-Arizancu. 2021. Interdisciplinarity in Archaeology – A Historical Introduction. In Margarita Díaz-Andreu and Laura Coltofean-Arizancu, eds.: *Interdisciplinarity and Archaeology Scientific Interactions in Nineteenth- And Twentieth-Century Archaeology*, pp. 1–21. Oxford & Philadelphia: Oxbow Books.

Farrow, Ronan. 2019. Catch and Kill: *Lies, Spies, and a Conspiracy to Protect Predators*. New York: Little, Brown and Company.

Feyerabend, Paul. 2010 [1975]. *Against Method*. 4th ed. London and New York: Verso.

Flexner, James L. and Edward Gonzalez-Tennant. 2018. Anarchy and Archaeology. *Journal of Contemporary Archaeology* 5(2): 213–219.

Frieman, Catherine J. and Daniela Hofmann. 2019. Present Pasts in the Archaeology of Genetics, Identity, and Migration in Europe: A Critical Essay. *World Archaeology* 51(4): 528–545.

Fukuyama, Francis. 1992. *The End of History and the Last Man*. New York: Free Press

Furholt, Martin. 2018. Massive Migrations? The Impact of Recent aDNA Studies on our View of Third Millennium Europe. *European Journal of Archaeology* 21(2): 159–191

Gardner, Andrew and Ethan Cochrane. 2011. Evolutionary and Interpretive Archaeologies: A Dialogue. In Ethan Cochrane and Andrew Gardner, eds.: *Evolutionary and Interpretive Archaeologies*, pp.11–29. Walnut Creek, CA: Left Coast Press.

Giddens, Anthony. 1984. *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity.

Ginzburg, Carlo. 2012. *Threads and Traces: True False Fictive*. Berkeley: University of California Press.

González-Ruibal, Alfredo. 2014. Archaeological Revolution(s). *Current Swedish Archaeology* 22: 41–45.

Graeber, David. 2001. *Toward an Anthropological Theory of Value: The False Coin of Our Own Dreams*. New York and Basingstoke: Palgrave.

Graeber, David. 2015. *The Utopia of Rules: On Technology, Stupidity, and the Secret Joys of Bureaucracy*. New York: Melville House.

Haak, Wolfgang, Iosif Lazaridis, Nick Patterson, Nadin Rohland, Swapan Mallick et al. 2015. Massive Migration from the Steppe Was a Source for Indo-European Languages in Europe. *Nature* 522(7555): 207–211.

Hacking, Ian. 2010 [1975]. Introduction to the Fourth Edition. In Paul Feyerabend: *Against Method*, pp. vii–xvi. 4th ed. London and New York: Verso.

Hakenbeck, Susanne E. 2019. Genetics, Archaeology and the Far Right: An Unholy Trinity. *World Archaeology* 51(4): 517–527.

Henry, Edward R., Bill Angelbeck and Uzma Z. Rizvi. 2017. Against Typology: A Critical Approach to Archaeological Order. *The SAA Archaeological Record* 17(1): 28–32.

Hofmann, Kerstin P. and Philipp W. Stockhammer. 2017. Beyond Antiquarianism. A Review of Current Theoretical Issues in German-Speaking Prehistoric Archaeology. *Archaeological Dialogues* 24(1): 1–25.

Ion, Alexandra. 2017. How Interdisciplinary Is Interdisciplinarity? Revisiting the Impact of aDNA Research for the Archaeology of Human Remains. *Current Swedish Archaeology* 25: 177–198.

Jacobs, Jerry A. and Scott Frickel. 2009. Interdisciplinarity: A Critical Assessment. *Annual Review of Sociology* 35(1): 43–65.

Kaniewski, David, Elise Van Campo and Harvey Weiss. 2012. Drought Is a Recurring Challenge in the Middle East. *Proceedings of the National Academy of Sciences* 109(10): 3862–3867.

Karatani, Kōjin. 2003. *Transcritique: On Kant and Marx*. Cambridge, MA and London: MIT Press.

Karatani, Kōjin. 2012. *History and Repetition*. New York: Columbia University Press.

Karatani, Kōjin. 2014. *The Structure of World History: From Modes of Production to Modes of Exchange*. Durham, NC and London: Duke University Press.

Kelley, Jane H. and Marsha P. Hanen. 1988. *Archaeology and the Methodology of Science*. Albuquerque, NM: University of New Mexico Press.

Klein, Julie T. 2017. Typologies of Interdisciplinarity: The Boundary Work of Definition. In Robert Frodeman, Julie T. Klein and Carl Mitcham, eds.: *The Oxford Handbook of Interdisciplinarity*, pp. 21–34. 2nd ed. Oxford: Oxford University Press.

Kristiansen, Kristian. 2004. Genes versus Agents. A Discussion of the Widening Theoretical Gap in Archaeology. *Archaeological Dialogues* 11(2): 77–99.

Kristiansen, Kristian. 2014. Towards a New Paradigm: The Third Science Revolution and Its Possible Consequences in Archaeology. *Current Swedish Archaeology* 22: 11–34.

Lave, Jean and Etienne Wenger. 1991. *Situated Learning: Legitimate Peripheral Participationy*. Cambridge and New York: Cambridge University Press.

Lefebvre, Henri. 1991. *The Production of Space*. Oxford: Basil Blackwell.

Lyman, R. Lee and Michael J. O'Brien. 2004. A History of Normative Theory in Americanist Archaeology. *Journal of Archaeological Method and Theory* 11(4): 369–396.

Morgan, Colleen. 2015. Punk, DIY, and Anarchy in Archaeological Thought and Practice. *Online Journal in Public Archaeology* 5: 123–146.

Moro Abadía, Oscar. 2017. Bridging the Gap in Archaeological Theory: An Alternative Account of Scientific 'Progress' in Archaeology. *World Archaeology* 49(2): 271–280.

Motterlini, Matteo. 1999. *For and Against Method*. Chicago and London: The University of Chicago Press.

Nilsson Stutz, Liv. 2018. A Future for Archaeology: In Defense of an Intellectually Engaged, Collaborative and Confident Archaeology. *Norwegian Archaeological Review* 51(1–2): 48–56.

Noë, Alva. 2009. *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons From the Biology of Consciousness*. New York: Hill and Wang.

Oakeshott, Michael. 2015 [1933]. *Experience and Its Modes*. Cambridge: Cambridge University Press.

Olalde, Iñigo, Selina Brace, Morten E. Allentoft, Ian Armit, Kristian Kristiansen et al. 2018. The Beaker Phenomenon and the Genomic Transformation of Northwest Europe. *Nature* 555: 190–196.

Olalde, Iñigo, Swapan Mallick, Nick Patterson, Nadin Rohland, Vanessa Villalba-Mouco et al. 2019. The Genomic History of the Iberian Peninsula Over the Past 8000 Years. *Science* 363(6432): 1230–1234.

Ribeiro, Artur. 2018. Death of the Passive Subject: Intentional Action and Narrative Explanation in Archaeological Studies. *History of the Human Sciences* 31(3): 105–121.

Ribeiro, Artur. 2019. Science, Data, and Case-Studies under the Third Science Revolution: Some Theoretical Considerations. *Current Swedish Archaeology* 27: 115–132.

Ribeiro, Artur. 2021a. The Attitude Towards Science in the Changing Panorama of Archaeological Science. *Trabalhos de Antropologia e Etnologia* 61: 353–371.

Ribeiro, Artur. 2021b. Vagueness, Identity, and the Dangers of a General Metaphysics in Archaeology. *Open Philosophy* 4(1): 20–35.

Ribeiro, Artur. 2022. *Archaeology and Intentionality: Understanding Ethics and Freedom in Past and Present Societies*. London and New York: Routledge.

Riede, Felix. 2009. Climate and Demography in Early Prehistory: Using Calibrated 14C Dates as Population Proxies. *Human Biology* 81(2–3): Art. 309e337.

Rosenberg, Alex. 2001. Reductionism in a Historical Science. *Philosophy of Science* 68(2): 135–163.

Sanger, Matthew C. 2017. Anarchic Theory and the Study of Hunter-Gatherers. *The SAA Archaeological Record* 17(1): 39–44.

Schatzki, Theodore R. 1996. *Social Practices: A Wittgensteinian Approach to Human Activity and the Social*. Cambridge: Cambridge University Press.

Skoglund, Pontus, and Iain Mathieson. 2018. Ancient Genomics of Modern Humans: The First Decade. *Annual Review of Genomics and Human Genetics* 19(1): 381–404.

Sørensen, Tim Flohr. 2017. The Two Cultures and a World Apart: Archaeology and Science at a New Crossroads. *Norwegian Archaeological Review* 50(2): 101–115.

Sørensen, Tim Flohr. 2019. The Triviality of the New: Innovation and Impact in Archaeology and Beyond. *Current Swedish Archaeology* 26: 93–117.

Stanton, Travis W. 2004. Concepts of Determinism and Free Will in Archaeology. *Anales de Antropología* 38(1): 29–83.

Taylor, Charles. 1964. *The Explanation of Behaviour*. London: Routledge and Kegan Paul.

Trigger, Bruce G. 1996. *A History of Archaeological Thought*. 2nd ed. Cambridge: Cambridge University Press.

Van Gennep, Arnold. 1960. *Rites of Passage*. Chicago, University of Chicago Press.

VanPool, Christine S. and Todd L. VanPool. 1999. The Scientific Nature of Postprocessualism. *American Antiquity* 64(1): 33–53.

Veit, Ulrich. 2017. Farewell to Antiquarianism. A New 'Grand Narrative' for German-Speaking Prehistoric Archaeology? *Archaeological Dialogues* 24(1): 25–29.

Von Wright, George H. 1971. E*xplanation and Understanding*. London: Routledge and Kegan Paul.

Wallerstein, Immanuel. 2003. Anthropology, Sociology, and Other Dubious Disciplines. *Current Anthropology* 44(4): 453–465.

Wenger, Etienne. 1998. *Communities of Practice: Learning, Meaning, and Identity*. Cambridge and New York: Cambridge University Press.

Williams, Alan N. 2012. The Use of Summed Radiocarbon Probability Distributions in Archaeology: A Review of Methods. *Journal of Archaeological Science* 39(3): 578–589.

Wylie, Alison. 1989. Matters of Fact and Matters of Interest. In Stephen Shennan, ed.: *Archaeological Approaches to Cultural Identity*, pp. 94–109. London and New York: Routledge.