

A discussion on the nature and direction of Archaeology and its relationship within the wider range of the humanities

Archaeology is defined as the study of the human past and culture through the material footprint left behind by our ancestors, in the ultimate goal to rediscover and chronologize the human story across earth. This both includes the larger stories of human societies and their cultural heritage and the individual stories of secular peoples across time, additionally both are intertwined and are the experiences that have directly influenced the evolution and metamorphosis of the human race to what it has become today. Archaeological discipline is the means by which this human story is understood now and preserved for generations in the future but it is not the sole means of how our shared human story is digested and understood, that is where the humanities come in. Such disciplines as creative writing, theology, philosophy, the classics, ancient history, anthropology and general history when all put together alongside archaeology as a collective consciousness form a better image of the human story each and every person has the intellectual right to. Archaeology however as an independent discipline has its own role, nature and direction towards contributing to the human story.

Furthermore, Archaeology is a discipline that has no true original point of origin, archaeological practice is something not particularly unique to a specific culture or people as its general definition, of being a study of specific material remains and antiquities in significance to a people's cultural heritage, is something that has been practised by people throughout history at many different time periods and generally captures the curiosity of a widespread denominator of humankind. This is because humans have always had a specific curiosity of what came before them, whether that takes the form of lineal ancestors, far flung more ancient civilisations from their own or even the subjects of a story told over a campfire. People have always sought out information about the past and on more than one occasion doctored that information which in turn shows how much significance the past holds over people and the need to know about it, which is where archaeology comes in to piece together a portrait of that time through the remains left behind of those who lived it. But in more organised and dedicated forms archaeological proceedings in that context are thought to have, at the earliest, began in the sixth century BC with the excavation of a temple floor by Nabonidus who was the last king of Babylon. Nabonidus was particularly enchanted with tracing the floor plans of dilapidated temples and retrieving artifacts. The reason for his efforts in redeveloping these temples was made clear in his many cylinders, which detailed his prior research on the temple sites and also recorded his findings at the sites; each site had its own cylinder dedicated to it. In focus however, is his first excavation and also by association, the first of its kind in the world, the excavation of the Ebabbar temple in Sippar (Central Iraq). Within the writings on the cylinder of Sippar, Nabonidus details how upon excavation of the foundation of the temple he discovered an inscription from a prior king and he also rather interestingly, attempted to date the writing he discovered which would also in turn become significant to archaeology as it was the first real documentation and analysis of archaeological remains to be written about, although this would be the only site he would properly do this at (as far as recording his findings in such a way). Despite not formerly being an early archaeologist, his early form of excavations were certainly akin to the ones performed in the future and he was clearly a man possessed with the reverence of the past, in his particular case one more focused around religious beliefs. But still, an interest in the past is clear and the formal point at which he started his excavations from. From its earliest depictions with nabonidus, archaeological excavations and discourse have greatly evolved and transformed as has our understanding of the human story alongside and more than

certainly because of archaeology and also in equal part because of these curiosities with the past that people had, such as Nabonidus and even whole cultures like the Aztecs who were so fascinated by their own apparent ancestry with the Toltecs that upon discovering Teotihuacan, which they incorrectly linked with the Toltecs, began to include the ceremonial stone masks found there into the deposits beneath their own Great Temple within the very foundation of it. Unmistakable then, becomes the nature of archaeology as a discipline and defines its place within the humanities as a study. The collective nature of us humans makes up that definition, our conjoined need to understand our past and roots funds the very idea of archaeological excavation and discourse in its objective to portrait the human story in as finer detail as is possible to us now, for present and future generations of the human race.

Archaeology as a study has a future trajectory that is ever changing and evolving in its ways to analyse and interpret its own methods which will also be undoubtedly changed by human advancements in technology and our own developing consciousness towards interacting and damaging our environment, as examples. Archaeology has already begun to adopt new technologies, such as LiDAR scanning, to transform the ways at which archaeologists survey and sample the environments they are excavating. LiDAR uniquely removes the need for direct human interactions in some environments, which in turn removes the possible damage to soil layers and surrounding biospheres archaeologists can damage in their own excavations. LiDAR and other visualization techniques also uniquely provide new data analysis for archaeologists to understand and form new hypotheses, it is also a sign of the future reliance archaeology will continue to depend upon from its origins as a collecting and cataloguing study and forming personal beliefs about past societies based solely upon that. This definitely suggests archaeology will rely more heavily upon its scientific analysis elements to form more fact based and driven conclusions as a result of new technologies being developed for application in archaeological fieldwork. An example of previous technologies that have been applicable to archaeologists, providing more utility in the modern day and with future scaling and evolution is palaeogenetics. Palaeogenetics is the study of ancient DNA to provide new insight on organisms in the past. This field of study within Archaeology is dramatically improving with, once again, technological improvements as the main issue with palaeogenetics in the past was initially the ability to verify the results it provided as only short genome sequences were able to be analysed which primarily is a result of DNA being very delicate and fragile causing its degradation to be very fast and volatile. In the current time and future however, the price to conduct these genetic experiments continues to lower and the ability to single out and decipher genetic sequences from samples of ancient DNA becomes a lot more easier. The ability to pinpoint (verify) where in time DNA samples originate will also further improve and being able to validate with more certainty where some samples actually are dated to is of certain benefit to the study of archaeology and may also provide better insight into some current held hypothesis about samples we have DNA analysed already. Moreover, there is a specific technological development that has become applicable for use in archaeology in much more modern times and most definitely will become a critical world, not only discipline based, debate and that technology would be artificial intelligence. Artificial intelligence's primary application towards the discipline of archaeology, is its utility towards processing large sets of data and with the advent of new forms of data being available to archaeologists, such as LiDAR scans, there has never been such a need for more sets of eyes looking upon it and AI serves that purpose. A bonus to the usage of AI for the future of archaeology is that it is still an emerging resource in the field and will most certainly be more developed in the future and its uses will

furthermore redefine or grow. However it still must be mentioned that AI as a resource has a lot more controversial elements to its production and use. This is because AI requires a significant amount of water and energy to produce and run, for a large machine learning program it costs up to 300,000 Kg of carbon dioxide to train up to par for use in the field. This means that AI, with the way the world is increasingly moving towards sustainable measures to protect the earth, has a most undetermined future and one that if this major issue is not resolved its development will slow. Archaeology will also open itself up to major ethical issues, outside the environment, with the application of artificial intelligence. Including issues such as the impact on the job market, will utilising AI over human hands and eyes rule ourselves out? And more posing questions will appear further into the future as AI gets more advanced, how much should the technology get used over humans?, How advanced should it be allowed to get? And finally how much control do we have over it as it advances further?. Archaeology leaves itself unguarded to these issues with the advent of AI being used in its processes, but with correct moderation and a move towards sustainability, the utilising of technological advancements such as artificial intelligence within archaeology will undoubtedly leave the future direction of the discipline in a good place for advancing and developing our understanding of the human story as a whole. Archaeology overall is headed in a direction towards the further establishment and involvement of scientific processes in its methodology, it is also heading in the same direction the sciences are, in utilising advancements in technology towards refining its operations, despite being a discipline rooted in the humanities.

As previously referenced, Archaeology is rooted in the humanities which includes the disciplines of: creative writing, theology, philosophy, ancient history, general history, the classics, anthropology and archaeology itself. Archaeology's place within the humanities is quite unique as its reliance on traditional humanistic approaches in its study is gradually changing and evolving towards a newfound reliance on scientific processes, although archaeology relies on both academic elements to fully explore the human story. This is because without scientific approaches that would liken archaeology to a science it would be a disservice to the humans and their experiences in which the humanities is all about researching and understanding through their disciplines. However, interpretation and more humanistic elements can only go so far in modern archaeology without the aid of scientific methodology such as carbon dating to establish a narrative fully that more humanistic sides of the field undoubtedly need to reinforce their hypotheses. The same goes for more scientific approaches to archaeology, without the unique thinking that humanistic elements of the discipline provide, analysis, stats and figures can only go so far as well. This is due to the element of "story telling" that is fundamental in the study of the humanities; without it, scientifically inclined parts of archaeology would have no real ability to portray their findings in a human context. It could be likened to archaeology being two different parts of a police detectives board. The Scientific parts of the study such as LiDAR mapping and carbon dating are the evidence on the board, they provide the basis for what humanistic archaeologists build upon; by connecting the dots together the humanistic side creates the story that will be linked together with the evidence the Scientific minds provide. Each are inextricably interlinked together by the aid they can provide each other.

To complete this discussion, archaeology by its very foundations is about piecing together the human story in as much detail as possible, about preserving and rediscovering the past for the future generations. It is fundamentally about our collective past, which is humans' very own intellectual property, our story. Additionally, the direction to which the discipline is headed is one in keeping with the times, rapid technological reliance. Within archaeology this evolution appears in the form of using new emerging and rapidly improving technology, such as LiDAR and also new developments on established research methods such as paleogenetics; despite possibly facing issues (and benefits) in the future with the advent of artificial Intelligence being applicable for use processing data in an archaeological setting. Finally, its relationship with the humanities as a whole is intertwined with its direction as well. Archaeology is beginning to rely much more on technological methods and is thus shaping the way in which it is practised in modern times towards a more scientific approach. So, its relationship within the wider humanities is very unique as it possesses a more fundamental and growing scientific factor to research but ultimately its roots will always be in the humanities, with strong ties and influence on other disciplines such as history for an example.

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