

# Redemption in the Land of Archaeological Sin: great excavators in the Middle East during the 1920s

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**Abstract:** Mortimer Wheeler’s account of his introduction of systematic digging methods in archaeology has proved durable over the sixty years since its publication. In particular, Wheeler was dismissive of the efforts of pioneer excavators in the Middle East. It has long been considered that this quandary was not redressed until the 1950s when his most notable student, Kathleen Kenyon, introduced stratigraphic excavation methods to the Levant. By tracing the careers of two great excavators of the 1920s, Dorothy Garrod and Gertrude Caton Thompson, this article seeks to show that the arrival of high-quality stratigraphic methods in the Middle East was a more complex process than has been claimed.

## Introduction

Despite the Middle East’s impressive archaeological heritage and the famous names who recovered it, field methods used in its recovery during the nineteenth and early twentieth centuries have long been regarded as poor. Mortimer Wheeler (1954:30), the doyen of twentieth-century stratigraphers, famously dismissed the region as a land ‘where more sins have probably been committed in the name of archaeology than on any commensurate portion of the earth’s surface’<sup>1</sup>, and in his landmark texts on scientific excavation, Wheeler (1954, 1955) castigated the excavation methods employed in the Middle East as wholly inadequate to tackle the region’s complex array of ruined temples, towns and cities.

Wheeler believed that archaeologists didn’t know how to dig properly until his own time and his introduction of stratigraphic excavation methods at the Romano-British site of Segontium (Wales) in 1921. Wheeler’s (1923) publication of the site was indeed exemplary for its time. It not only contained his prized section drawing (Figure 1), but also a comprehensive analysis of the artefacts

and subsistence data (i.e. animal bones). It is notable, however that the revolutionary nature of the stratigraphic method was not remarked on by Wheeler in this work, nor anywhere else in the literature for that matter, but only later in his 1955 memoir. In his later treatises on excavation, Wheeler (1954, 1955) described the imperative need to separate time-differentiated archaeological layers and their contents, to remove them in the reverse order from which they were deposited, and to follow them indefatigably up and down slope, wherever they may lead. He stressed that archaeological layers are almost always inclined. On the contrary, as he emphasized, pioneer diggers of the Middle East from Flinders Petrie to William Foxwell Albright dug relentlessly in great horizontal swathes. In so doing they inevitably combined objects from different time periods, ensuring that chronology and cultural interpretation remained obfuscated (Davis 2004). No real progress was made on this front until the early 1950s, when Wheeler’s most celebrated student, Kathleen Kenyon, began her excavations at Jericho (Tell es-Sultan). Wheeler’s history of excavation rapidly became orthodoxy. Numerous scholars have repeated his

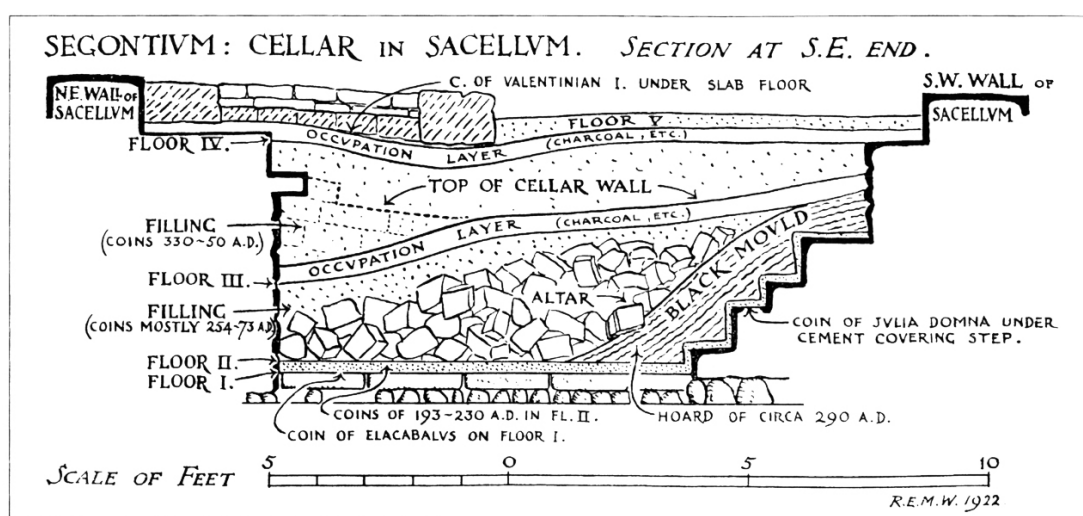


Figure 1: Wheeler’s stratigraphic section drawing of Segontium (from Wheeler 1923: Fig. 17).

account that stratigraphy began at Segontium (Barker 1977; Harris 1979: 10, Hawkes 1982; Kenyon 1952: 69; Carr 2012) and that its deployment in the Middle East began with Kenyon (Davis 2004). But the history of stratigraphic archaeological excavation in the Middle East is more complex than this.<sup>2</sup>

The actual story more closely resembles the complex pattern of discoveries and inventions established by theories of human innovation (Johnson 2010). At least 148 cases are known of multiple inventions, the great inventions in the main, ranging from the telephone to the typewriter (Ogburn & Thomas 1922). Great discoveries have typically involved clusters of researchers who, equipped with similar talents and experience, have found similar solutions - even if one 'great' inventor takes the plaudits. Some have operated alone; others in groups. Often, such discoveries are propelled by the parallel dissemination of information along complex networks of interaction. Some of these pathways include important mentor-student relationships that operate at a personal level, rendering many difficult to discern (Smith 2009).

It is worth looking more closely at how Wheeler describes his introduction of the stratigraphic method at Segontium:

*The chance was gladly seized to deal with the historical problems of a site which was pivotal in the Roman occupation of Wales and to evolve the necessary techniques for doing so (Wheeler 1955: 66, emphasis added)*

Later his biographer, Jacquetta Hawkes adds another dimension to the discovery:

*He (Wheeler) longed to justify his belief that he could follow and then improve upon Pitt-Rivers's methods (Hawkes 1982:85, emphasis added)*

The trouble with this explanation is that Wheeler himself explicitly ruled out Pitt-Rivers as a teacher of stratigraphy. He emphasized that, while Pitt-Rivers was careful, he didn't distinguish stratigraphic layers.

More recently, Carr has repeated Hawkes' version:

*He (Wheeler) continued to reference the General (Pitt-Rivers) as a predecessor for the rest of his career. The first chance to apply these new ideas came with an invitation in 1921 to continue the excavation of the Roman fort at Segontium (Carr 2012: 96, emphasis added)*

Innovations in young disciplines (such as archaeology was then) are usually driven by a critical knowledge transfer from a senior discipline. This issue is indeed the most troublesome thing about Wheeler's account of his abrupt introduction of stratigraphy to archaeology and the later interpretations of it. Wheeler's achievement lacks any antecedent and Wheeler lacks an evident teacher or guide. O'Connor (2007: xxv) has noted that many early accounts of archaeology bear a distinct air of 'Whiggish history'; that they resemble the just-so story where ev-

erything improves incrementally and consistently up to the present (see also, *inter alia*, Schlanger 2002). This is indeed the type of disciplinary history that Wheeler wrote, with himself as the ultimate gold standard.

In tracing the careers of Dorothy Garrod and Gertrude Caton Thompson, this essay explores the more complex pathways by which stratigraphy and systemic digging were introduced into the Middle East during the 1920s, independently of Wheeler. In a male-dominated age, the two women had no peer as field archaeologists. By the end of the 1920s, Dorothy Garrod had emerged as the premier scholar of world prehistory and Gertrude Caton Thompson - not Wheeler - had become established as one of the world's best excavators. The field accomplishments of Garrod and Gertrude Caton Thompson deserve more recognition but the deeper intent of this article goes back to Wheeler and his paradigm. If Wheeler didn't teach Garrod and Caton Thompson, then who did? Did they independently 'think up' the concept of stratigraphic digging as Wheeler himself claims to have done? Why has the Kenyon - Wheeler version of Middle Eastern archaeology remained so dominant at the expense of others, and why did the memories of Garrod and Caton Thompson fade? The following analysis attempts to elucidate these issues and asks why Wheeler omitted both Garrod and Caton Thompson from his treatise on archaeological method (1954), even though he well knew about both women's brilliant careers.

Both Garrod and Caton Thompson have ridden a wave of popularity in recent histories of the discipline and have been duly recognised as two of the great archaeologists (Bar-Yosef & Callander 2004; Drower 2004). However, their specific field methods have come in for less scrutiny and this topic forms the focus of this paper. Although detailed biographies are available elsewhere, summaries of their lives are necessary here to provide context and certain details are emphasized since they bear on the arguments made here.

### **Dorothy Garrod and Gertrude Caton Thompson: brilliant daughters of Britain's 'intellectual aristocracy' and its generation of 'surplus women'**

Social and political factors aligned to ensure that Garrod and Gertrude Caton Thompson avoided the disadvantage endured by many women in the early days of archaeology (Champion 1998, Diaz-Andreu & Sorensen 1998). Both scholars had privileged upbringings, were socially elevated, enjoyed elite tertiary educations, and prospered from the support of leading male archaeologists. They also remained unmarried, which gave them time and freedom to pursue their own pursuits. Less positively, both women experienced personal losses in the First World War that were important in setting them on their professional paths. The two were close friends, although they worked quite independently of each other.



**Figure 2:** Dorothy Garrod as a young woman  
Photo: courtesy of Newnham College, Cambridge

Dorothy Annie Elizabeth Garrod (1892 – 1968) is a prime example of Britain's influential 'intellectual aristocracy' (Annan 1955) which prospered at the turn of the twentieth century (Figure 2). Her paternal grandfather, Alfred Garrod, was Physician Extraordinaire to Queen Victoria and one of the founding fathers of the discipline of biochemistry. Her father, Sir Archibald Garrod, was a leading zoologist and physiologist of his day (Caton Thompson 1969). The circles her family inhabited led her naturally to a world of prominent academic minds. Garrod lost two brothers and her fiancé to the First World War. She emerged from the war as a changed woman and, like many of her contemporaries, a member of the generation of 'surplus women' (Nicholson 2007). She seems to have consciously faced this new world by deciding abruptly to follow a career as a prehistoric archaeologist (Bar-Yosef & Callander 2004). In 1920, Garrod enrolled in Robert Marett's diploma course in Anthropology at Oxford. Through Marret's contacts with the French scholar, Emile Cartailhac, Garrod transferred her studies to Paris in 1921 to study at *L'Institut de Paléontologie Humaine* under the leading French prehistorian, Abbé Henri Breuil.

In the period that followed, Garrod was trained in excavation technique by the vanguard of French prehistoric archaeology. By the mid-1920s, after four years of intensive training, (during which time a modern archaeology student would scarcely attain Honours level), Garrod could already be counted as an archaeologist of international reputation, having published a major work

on the Upper Palaeolithic of Britain (1926) and having excavated the Middle Palaeolithic site of Devil's Tower in Gibraltar (1925-26) where she unearthed the remains of a Neanderthal infant (Garrod *et al.* 1928). Notably, Garrod was largely absent from the British scene in the period when Wheeler dug at Segontium. Wheeler knew of Garrod during this period though since she aided him with advice about flint tools and illustrations for his *Prehistoric & Roman Wales* (1925).

As her career progressed, Garrod gathered unparalleled experience in Palaeolithic archaeology. She carried out significant fieldwork in Britain, France, Bulgaria, Turkey, Palestine, Lebanon, Iraq and on the Iberian Peninsula (Gibraltar). With excavations at the Mount Carmel caves in Palestine, she established the main lines of the Palaeolithic sequence for the Middle East for decades to come. There, also, she made key discoveries of Neanderthals and early anatomically modern humans, and first identified the Natufian Culture, a complex hunter-gatherer culture of the terminal Pleistocene. In 1939 Garrod was appointed to the Disney Chair in Archaeology at Cambridge University, becoming the first woman to be appointed as a professor in that institution.

Many who knew Dorothy Garrod emphasized her modesty, retiring nature and shyness, especially in large social gatherings.<sup>3</sup> These traits did not fit her especially well for the rough-and-tumble of academic politics and in 1953 she relinquished the Disney Chair and went to live in France with her friend Suzanne de Saint Mathurin, also an archaeologist. While resident at Angles sur l'Anglin, Garrod helped Saint Mathurin excavate a series of extraordinary Upper Palaeolithic images of bison in the cave site of Roc aux Sorciers.

Gertrude Caton Thompson (1888 – 1985, Figure 3) enjoyed a similarly privileged upbringing as Garrod; her maternal grandfather too was an accomplished physician and her father a successful barrister (Caton Thompson 1983: 1). Her inheritance left her well enough supported to pursue her interests in archaeology throughout her life. Both the families of Garrod and Caton Thompson were well-connected with the establishment, and this status aided their entry and advancement in professional life. For example, it was at a dinner party that Caton Thompson met Arthur Salter; an encounter that might only happen to a young lady of a certain standing, which led her to become his personal assistant in the British Admiralty's Transport Department during the First World War. She impressed in the job and, encouraged by Lord Salter, later travelled with the British delegation to the Paris Peace Conference in 1919. Caton Thompson, like Garrod, was affected by the First World War and its aftermath, both personally and professionally. She also lost an intimate male acquaintance, Carlyon MacFarlane, killed on patrol in the Bahariya Oasis in Egypt, not far from the places where she was to make her name in archaeology. In Paris, Caton Thompson's interest in the Middle East was kindled through meetings with luminaries such as Gertrude





**Figure 3:** Portrait of Gertrude Caton Thompson  
 Photo: RAI 36032 Portrait of Gertrude Caton Thompson. Photographed by Ramsey & Muspratt, Cambridge, 1938. Courtesy of the Royal Anthropological Institute

Bell and T.E. Lawrence; both had worked in the Middle East during the war, not only in military and intelligence circles but also in archaeology.

Stimulated by their example, Caton Thompson decided to capitalize on her interest in the Orient which had been nurtured by frequent trips to the region as a young woman. Between 1921 and 1923, she set about gaining the elite education that was to equip her superbly for a career in archaeology. Caton Thompson studied archaeology at University College London, Arabic at the School of Oriental Studies (now SOAS) and she began a long association with Newnham College, Cambridge, where she studied zoology and palaeontology, geology, social anthropology, physical anthropology, prehistoric archaeology and surveying.

Caton Thompson also met the palaeontologist Dorothea Bate at the London Natural History Museum. Bate was to become a firm friend and was also a significant research partner to Dorothy Garrod, contributing to Garrod's first project at Devil's s Tower (Garrod *et al.* 1928) and analysing the fauna from her major excavations at Mount Carmel (Garrod and Bate 1937). It was around this time (*ca.* 1922) too that Caton Thompson met Dorothy Garrod. They also became firm friends, although their professional lives did not intersect significantly. The most critical

people that Caton Thompson met during this period were the Egyptologists Margaret Murray and Flinders Petrie at University College, London. These contacts initiated her fieldwork career with Petrie in Upper Egypt in 1921.

Caton Thompson's relationship with the indomitable Petrie is fascinating for the light that it sheds on her own personality, which is often described in such contradictory terms that she come across as something of a *doppelganger*. Textbooks routinely include Petrie as the doyen of *fin de siècle* archaeologists (although this was not the view of Wheeler, as noted earlier) but Caton Thompson had his measure. A case in point involved their debate over the origin of human bone fragments placed in Predynastic graves at Qau (Caton Thompson 1983: 90). Armed with her geological nous, Caton Thompson quickly demonstrated that they could not have been transported fluvially as Petrie maintained, but he would have none of it. Caton Thompson (1983: 84) bluntly assessed her famous mentor as 'dictatorial and obstinate' and noted mischievously that 'In one thing he failed to impress. His voice was high-pitched and apt to squeak when he was annoyed.'<sup>4</sup> Doubtless, Caton Thompson was more familiar with this characteristic than most of Petrie's other students.

These exchanges indicate Caton Thompson's own strong personality. Daniel (1984: 85) recalls that she 'suffered no fools gladly (or even halfway to gladness).' Davis (2008: 37) claims that she 'was, in fact, a difficult woman who was not a good teacher for the beginner because she could not be bothered to explain things properly.' This statement was made in connection with Kathleen Kenyon, one of the few students that Caton Thompson ever took on a dig. Davis (2008: 37) goes so far as to claim that Caton Thompson 'may have been the only person Kathleen Kenyon ever feared.' It is a key point to note that Kenyon, so closely associated with Wheeler, beginning with the excavations at Verulamium/St. Albans in 1930, (Davis 2008: 47) received her first field training - and a very comprehensive one at that - from Caton Thompson at Great Zimbabwe in 1929 (Caton Thompson 1970, 1983).

In the field, Caton Thompson was determined and tough and she revelled in the privations of dig life. Flinders Petrie was famously partial to the advantages of disused tombs as accommodation on his digs. On being shown her abode at the site of Qau in Upper Egypt, Caton Thompson found it occupied by a family of venomous cobras. Reasoning that the serpents had priority of residence, she decided to co-exist with them, mollifying her fitful sleep by spreading a lather of sand between her and their niche in the wall, 'in case they should come too close in the night' (Caton Thompson 1983: 90). She also took the precaution of sleeping with a pistol under her pillow to cope with such discomforts. During work in the Fayum Oasis in Egypt, both Caton Thompson's field vehicles broke down simultaneously, leaving her team stranded. Calmly, she waited for nightfall; then navigated her way nearly thirty kilometres by foot to the nearest settlement

for help.<sup>5</sup> On the same project, her guide once became disoriented in the shadeless Rayan Depression with daytime temperatures nudging 49° Celsius. Again, Caton Thompson waited until nightfall before guiding her team back to camp, essentially by instinct.

On the other side of the ledger, Caton Thompson's private thoughts reveal a diffident side. She agonised over her fondness for Carlyon MacFarlane, but he went to his grave without her being able to express her feelings to him. She was also genuinely modest and she disliked people making a fuss over her.<sup>6</sup> She quietly declined an Order of the British Empire for her work at the Paris Peace conference. Her diary entry for May 22, 1944, on receipt of the offer of a Fellowship from the British Academy read simply: 'Cannot believe it: *Why?*' (Caton Thompson 1983: 222).

Yet, when the British Association for the Advancement of Science and the Rhodes Trustees were casting about for an archaeologist of unimpeachable quality to settle the date and origins of the Great Zimbabwe ruins, it was to Caton Thompson that they turned, not Wheeler. By the end of the 1920s, it is fair to say that Gertrude Caton Thompson was regarded as one of the finest field archaeologists in the world.

### Sources

Finds from the excavations at Roc aux Sorciers were sent to the French National Museum of Archaeology at St Germaine-en-Laye. Ultimately, so were Suzanne Saint Mathurin's personal papers and archives. Saint Mathurin outlived Garrod, who died in 1968, and for many decades it was assumed that Garrod had disposed of her papers because nothing of her personal life ever came out. Then in the mid-1990s, a group of scholars discovered that Saint Mathurin had included Garrod's photographs and field notebooks within her own archive, deposited at St Germaine-en-Laye (Bahn *et al.* 1997). True to form, we learn nothing new of consequence about Garrod's personal life from these, although her field methods are intriguingly illuminated.

Neither Garrod nor Caton Thompson left a significant corpus of letters by which to judge their inner lives. However, Caton Thompson did produce a remarkable autobiography at the end of her life, written up from her daily diary.<sup>7</sup> The work is almost a case of her missing the wood for the trees, so full is it of minutiae about every meeting, dinner party and opera she attended, at the expense of the broad sweeping view. There are only a few indirect clues about the origins of her digging methods. She hints that her mentors, Flinders Petrie and Guy Brunton, could not have taught her much, because she did so much more than them and did it so much better. Perhaps she did not feel the need to include a commentary on her methods because, virtually alone among her contemporaries, she included a fully inclusive exegesis of them in her published excavation reports. In this, she stands in complete contrast to Garrod. Caton Thompson's account of the excavation of Kom W in the Fayum Oasis (1925-6) is preceded by a

comprehensive methodology laid out succinctly in only a few paragraphs, but still the equal of anything ever done previously. (Caton Thompson and Gardner 1934: 24). By contrast Dorothy Garrod's excavation reports contain no mention of her digging methods.

### Garrod's excavation technique

Garrod's papers include the field notebook of her first project in the Middle East; the excavations conducted at Shukbah Cave in Palestine, in 1928. Shukbah wasn't substantively published until 1942 and Garrod disclosed nothing of her field methodology in her published accounts of the work, therefore the 1928 notebook is important as contemporaneous evidence. The Shukbah field archive comprises a small, thirteen-page handwritten notebook and a torn envelope of black-and white photographs. The daily entries are brief, nearly always consisting of just a few lines. Verbiage is kept to a minimum and there is no reflection on Garrod's feelings about the course of the work. This reader formed an impression of a calm temperament; one confident, in control, and at ease with the complexities of the stratigraphy as it was unravelled.<sup>8</sup>

Only two colourful incidents intrude on the entire account. The first occurs on the 11th April, 1928 when Garrod cries, 'Toothbrush found!!!' This curious entry is the only time that Garrod expresses noticeable emotion. Indeed, the find of a toothbrush in rural Palestine in the 1920s is noteworthy; the unearthing of one from deeply buried Mousterian deposits in a remote cave remarkable. On the 12th April, Garrod writes 'B continued in N. wall. Clearing to west. Two fights among men.' The latter comment appears as an abrupt *non sequitur* in the excavation log and serves to reinforce Garrod's imperturbable temperament.

Garrod reveals an awareness of the complexities of the stratigraphy and of the necessity to follow each deposit, no matter where it leads:

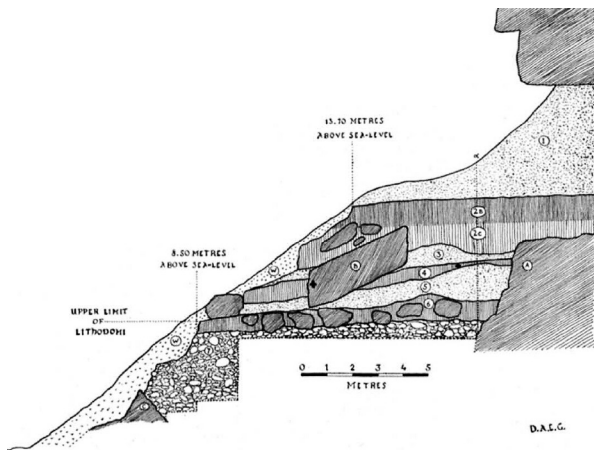
*29th May: Mousterian here deeply ravined by microlithic. & wherever the two areas in contact the microlithic has worked into all the cracks & crevices of C.*

The 'microlithic' stone tools she refers to are Natufian ones (13,000–10,300 BC), although at this point Garrod had yet to accord this label to the period. The Natufian remains at Shukbah were designated as Level B. The underlying Level C was a Levantine Mousterian deposit (between 250,000–48,000 BC). There is no conscious exposition of her methods and it is necessary to read between the lines to discern them.

Then, a critical comment appears:

*29th May: R. maxilla found, apparently perfectly in place, with Mousterian implements, but in Sieve I found a microlithic core (emphasis added).*

But for this obscure line entry, we would not know that Garrod had ever sieved at Shukbah at 1928 because she never said so in any of her publications.



**Figure 4:** Garrod's stratigraphic section drawing of Devil's Tower, Gibraltar (from Garrod et al. 1928: 39).

Garrod's stratigraphic methods were already fully developed by the time of her first solo excavations at Gibraltar in 1925. At this point in her development she was only four years out from partaking in Robert Marett's introductory archaeology course at Oxford (in 1921), yet she had already become one of the most celebrated prehistoric archaeologists in the world. Like Shukbah, The Devils Tower cave-site (Garrod et al. 1928) yielded important Mousterian deposits, including the remains of a Neanderthal infant. The stratigraphic rendering of

the site is particularly noteworthy, and was the equal of anything in current practice at the time; Garrod recorded the overlapping and dipping sediments as tone-shaded and labelled layers (Figure 4).

One of her major projects, at Tabun Cave at Mount Carmel, Palestine in 1934, illustrates the large-scale of her operations (Figure 5). Her 'Level E', the Acheulian (Lower Palaeolithic) deposit, was seven metres thick. When Jelinek re-excavated Tabun Cave in the 1960s, he subdivided Garrod's Layer E into fifteen successive deposits, and in all, her five major layers (B-E and G) into a hundred separate ones (Bar-Yosef and Callander 2004; Jelinek 1981). Jelinek also found that Garrod had dug horizontally through slumped deposits, mixing materials of different periods.

At Mount Carmel Garrod also excavated rich Natufian layers, in El Wad Cave. These were replete with burials, architectural constructions, and a rich material culture of groundstone tools, flint artefacts, and ornaments of shell and bone. The results were admirably published (Garrod and Bate 1937) but again, the sheer quantity of recovered materials required that some things were glossed over.

For some of the seventy or more human burials (Bocquentin 2003: 127), it was a case of: 'condition so bad that bones were not kept' (Garrod archive, cited in Bocquentin 2003: 124). In other cases, well-preserved bones were



**Figure 5:** Garrod's excavation in Tabun Cave at Mount Carmel, Palestine 1934  
 Photo: reproduced with the permission of the Pitt Rivers Museum, University of Oxford (1998.294.356)

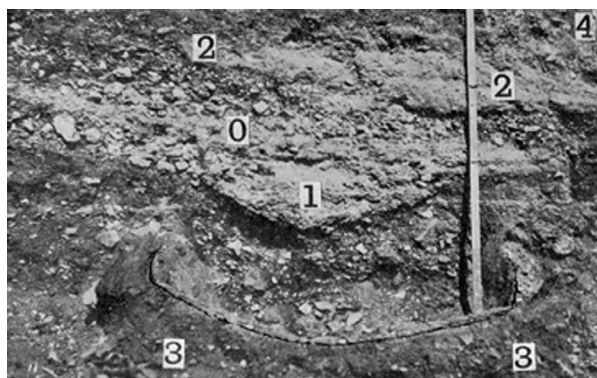


not collected - 'continue to clear and remove skulls and long bones from the group burial' (Garrod archive, cited in Bocquentin 2003: 124). Bocquentin's inspection of the El Wad human remains corroborates this point by showing that certain bones such as those of the feet and hands are rarely present in the skeletal collections, whereas illustrative evidence demonstrates that they were originally present *in situ*.

Garrod's methods were exemplary compared to most of her contemporaries although they suffer in comparison with the standards of modern Pleistocene archaeology. Comprehensive and systematic retrieval of materials was not necessarily an ethic of field praxis in the 1920s, as it is today. Garrod did better than most and her omissions can be put down to the exigencies of running a large, difficult, field operation rather than lack of interest or simple carelessness. Nevertheless, she tended to dig too fast and retrieved massive amounts of material that she could not always deal with effectively (Bar-Yosef and Callander 2004).

### Caton Thompson's excavation techniques

After training with Petrie's team in Upper Egypt (1921) and some introductory forays at digging at Malta in 1922, initiated by Margaret Murray (Caton Thompson 1983: 90), Caton Thompson was placed in charge of Hemamieh in 1924. Her subsequent report is tucked away at the back of *The Badarian Civilisation* (1928). It is a minor masterpiece. From the outset, Caton Thompson had understood that the broad-brush methods of Petrie and Brunton were too coarse for the fine stratification of a prehistoric village. Her results from Hemamieh remained the most important ones of all for the chronology of the Predynastic period until the 1980s because of her high-quality methods (Hoffman 1991: 138-9). The following passages (Caton Thompson 1928: 71) see her digging in thin, arbitrary units, but interrupting them when she met a sloping interface so as to carefully separate each distinctive deposit (Figure 6):



SECTION OF HUT CIRCLE 265. (3) WALL OF HUT. (1) OVERLYING HEARTH. (2) UPPER HEARTH. (0) DECORATED SHERD No. 23

**Figure 6:** Caton Thompson's annotated photograph of complex stratified deposits at Hemamieh, Egypt (from Caton Thompson 1928: pl. LXVII).

*Although this 6-in. layer method was the standard adopted and normally enforced for the whole site, necessary deviations from a too rigid application of this principle were not infrequent. Further subdivisions sometimes became inevitable from various causes - a particular pocket to be worked out both horizontally and vertically, or the tilt of a line of hearth.*

*The workmen ... learnt to work in this unfamiliar, and to them despicably slow, manner, with great accuracy of level.*

Nobody in the Middle East had dug as well as this before. Caton Thompson was unique in the fine temporal scale she employed. She was also singular in her systematic retrieval of finds and her interest in subsistence remains; that is to say, the food plants and animals exploited by the ancient villagers:

*Comparatively little sieving was attempted, its use being reserved for patches of definite 'hearths' and hut circle contents, in the special hope of collecting grains and seeds. The delay in the progress of the work, already intrinsically slow, had screening been normally employed, seemed to me on this occasion to outweigh its merits.'* (Caton Thompson 1928: 71, emphasis added).

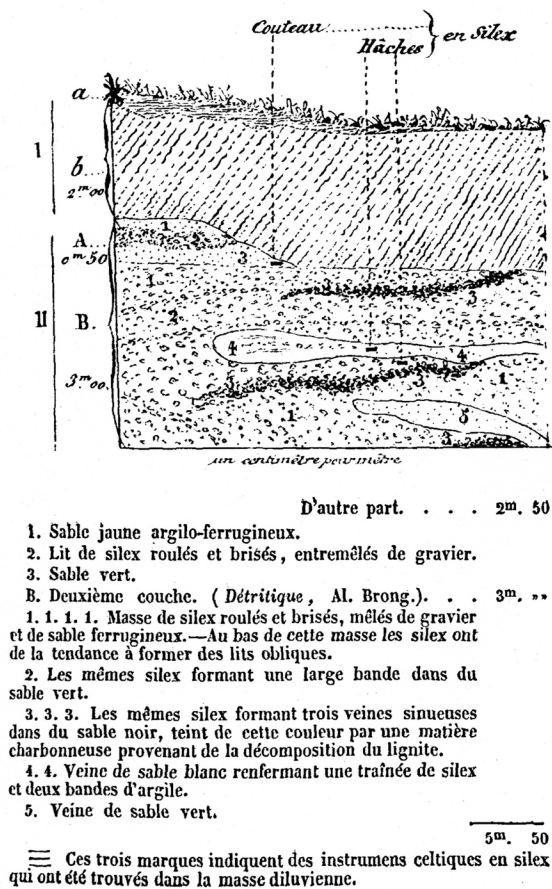
The passage 'had screening been normally employed' must be uttered in reference to her own own high standards, because few colleagues working in the Middle East had employed this painfully slow but highly effective means of recovering small finds (with the exception of Garrod). But for her, it was evidently so habitual a practice that, in Schlanger's terms (2002: 130), it was too evident to spend time explaining.

The fine control that Caton Thompson exercised over horizontal space was also unprecedented in the Middle East. At the Kom W site in the Fayum oasis (1925-26), she used a 5-foot grid to excavate, measure and plot each posthole and subterranean archaeological feature over a 6,000 square-metre area. In the Fayum she also carried out the first archaeobotanical study in Middle Eastern archaeology, analysing emmer wheat and barley gains with the aid of staff at the Guinness brewery in Dublin (Caton Thompson 1983: 107).

Caton Thompson also solved the riddle of Great Zimbabwe, proving it to be an indigenous African creation. There, she recorded successive deposits in numbered sections, with layers demarcated as dug (Caton Thompson 1970) and developed the retrieval process further by adding a wet-sieving stage after dry-sieving:

*The hill-wash - the archaeological stratum - was carried into the open and finely sieved before passing through a gold-washing sluice in Kenyon's charge* (Caton Thompson 1983: 128-129).

**BANC DILUVIEN DE L'HÔPITAL.**  
*Première Coupe dans le sens longitudinal.*



*Figure 7: Stratigraphic section drawing and sediment descriptions for the Hospital site, Abbeville, France (from Boucher de Perthes 1847-1864: 253).*

### Who taught Dorothy Garrod how to dig?

The Devil's Tower excavations were conducted just four years after Wheeler's use of stratigraphy at Segontium in Wales. The question then arises as to whether Garrod could have learned directly from Wheeler or have been influenced by him. Time and place at least provided a brief opportunity (Wheeler 1925: 6). However, it is clear that Garrod received her tutelage in excavation technique in France. After her transfer to Paris in 1921, Garrod obtained detailed and varied experiences in digging caves and rock-shelters.

The following examples are used to illustrate the point that the quality of French excavation in the nineteenth and early twentieth centuries was, although patchy, an established tradition marked by high points as good as Wheeler's, achieved well before his time. Breuil urged Garrod to study and even improve on the methods of Victor Commont. Commont (1916: 522-523) had meticulously recorded stratigraphy on the Somme River, excavated as a result of new public works undertaken at Le Nouveau Canal du Nord. He was the product of a tradition which owed its origins to the 1830s and the

stratigraphic analyses devised by Jacques Boucher de Perthes and his colleagues of the *Société d'Emulation d'Abbeville* (Aufrère 1940; Grayson 1983: 117-126; Cohen & Hublin 1989, Richard 2008, Schnapp 1996). From the 1830s, Boucher de Perthes (1847-1864) had produced strikingly modern, labelled section drawings of stratified deposits along the Somme River, measured to scale, with accompanying descriptions of the contents, nature and even the geochemistry of sediments<sup>9</sup> (Figure 7).

Breuil had come to the realisation that the study of stratigraphy rather than artefact typology was critical to the solution of chronological issues in archaeology. The problem that focused his attention was the so-called 'Aurignacian debate' that had simmered throughout the late nineteenth century in France. The celebrated typologist, Gabriel de Mortillet, had arranged the three principal cultures of the French Upper Palaeolithic in the sequence: Solutrean - Aurignacian - Magdalenian, based on his interpretation of artefact form.<sup>10</sup> Breuil used stratigraphy, especially Adrian Arcelin's work at Le Solutré during the 1860s, to confirm the correct sequence: Aurignacian - Solutrean - Magdalenian (Richard 2008: 201). Below the towering crag of La Solutré, Arcelin had recorded massive Upper Palaeolithic mounds of butchered horse and reindeer remains in the 1860s, and debated his colleagues in the field about which layer superseded which other. His recorded sections were drawn to scale and labelled. They recorded the complex rise and dip of the various archaeological layers (Arcelin 1890; Richard 2008). Arcelin, however, had little inkling that he was in the forefront of his profession, and even complained about his lot as a provincial field archaeologist:

*How we work in the provinces...far from books, colleagues and conferences...ignorant of what others are doing* (Arcelin, 1869, cited in Richard 2008: 133).

Paradoxically, he was one of the best diggers of his time. Garrod dug with a number of others, including Denis Peyrony, who employed careful stratigraphic recording in his projects (e.g. Peyrony 1914: 17) and at several other key French Palaeolithic sites. The English Dorothy Garrod was the product of a French tradition, one which Wheeler neglected entirely to mention in his historical review of field methods. Originating from an alternative school, Garrod had Wheeler's measure in the matter of complex stratigraphy and she was better than him at the systematic retrieval of finds.

### Who taught Gertrude Caton Thompson how to dig?

The origins of Caton Thompson's excavation technique are more obscure than Garrod's. Caton Thompson's stratigraphic methods owed little to her ostensible field guides, Flinders Petrie and Guy Brunton, because they did not dig in stratigraphic fashion. She did not meet Wheeler until 1932, long after her major fieldwork was done. Wheeler knew about her work though, and in 1938,



sent her a note of appreciation for her excavation of the Moon Temple at Hureidha in Yemen (Caton Thompson 1938: 222).<sup>11</sup>

If we are tempted to attribute Caton Thompson's virtues as a case of native genius, we should remember that she nurtured her talents to the full by systematically accumulating the best education she possibly could. In this connection, it is significant that she was anxious to visit the Belgian scholar Aimé Rutot in 1920 before taking to the field. Caton Thompson (1983: 82) described Rutot as 'a leading prehistorian of his day' and De Bont (2003: 605) concurs, rating him 'as one of Europe's best-known archaeologists between 1900 and 1920', although he is not remembered with particular esteem nowadays. Rutot ended up on the wrong side of the 'colithic controversy' (De Bont 2003; Spencer 1990); a longstanding debate carried on in the late nineteenth and early twentieth centuries over the diagnostic characteristics of flint stone artefacts.<sup>12</sup> Nevertheless, he was a competent field archaeologist (Rutot 1907) who dug stratigraphically and rendered section drawings (Figure 8), even if these suffer by comparison with the ones produced by Boucher de Perthes and colleagues much earlier.

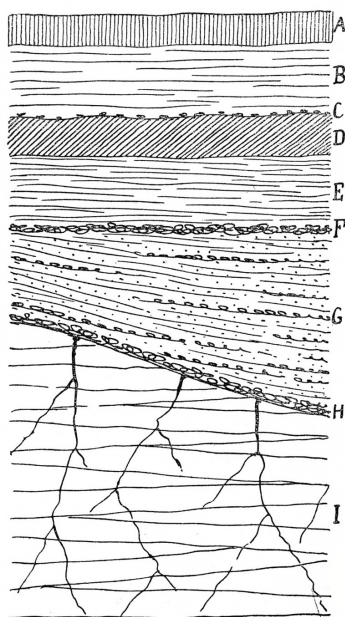


Fig. 2. — COUPE DE LA BALLASTIÈRE DE SAINT-PREST.  
(D'après le levé de M. A. Laville, un peu schématisé.)

- A. Terre à briques.
- B. Limon sableux stratifié, dit Ergeron.
- C. Petit lit caillouteux.
- D. Glaise panachée.
- E. Sable limoneux.
- F. Lit de cailloux.
- G. Sable grossier avec lits caillouteux et ossements d'*Elephas meridionalis*.
- H. Gravier de base actuellement peu visible.
- I. Craie blanche.

**Figure 8:** Rutot's section drawing and sediment descriptions for the Moeuf quarry site in Belgium (from Rutot 1907: 98).

A puzzling aspect of Caton Thompson's work is her employment of intricate horizontal grids and fine-scale vertical excavation units, for none of her contemporaries worked to this level of precision. Yet her works are reminiscent of one or two British excavators of earlier times. In this milieu emerges the remarkable Nina Layard, who lived and worked in East Anglia around the turn of the twentieth century.<sup>13</sup> Layard's work lay forgotten until it was rediscovered in the Ipswich Museum archives by Steven Plunkett (1999) during the 1990s. Layard ran into difficulties getting papers published in her lifetime and when she prevailed they were limited to brief notes, so her dig notes, photographs, plans and sections languished in obscurity. Passionate about antiquity, Nina Layard spent many years equipping herself with the necessary skills to dig at the highest possible level, waiting for her chance. In doing so, she enlisted the help of the most prominent archaeologists and geologists in Britain.<sup>14</sup> In 1903-04, Layard realised her ambition and excavated an Acheulian site at Foxhall Road in Ipswich (White & Plunkett 2004). Her work was distinguished; she excavated the site according to a three-foot-square grid and thin, arbitrary excavation units while respecting natural stratigraphy. She made detailed plans of flint artefact scatters, drew measured, labelled sections and also produced a photographic record of the operations. One of her photographs, taken on her excavation of the Anglo-Saxon cemetery at Hadleigh Road, Ipswich in 1907, may preserve the first image of workmen sieving for finds on an archaeological site (Plunkett 1994). It is even likely that under John Evans' tutelage, Layard performed the first known trial of sediment flotation in order to recover plant remains and microfauna (White & Plunkett 2004: 22).

John Evans, in turn, provides a direct link between Nina Layard and the Brixham Cave Committee which developed the prototype to her methods. On first reading, the Royal Society excavations at Brixham Cave (Prestwich 1873) appear as a revolution in the history of archaeological excavation. They are notable for their care and precision, reveal a hitherto unknown quantification of artefacts and faunal remains, and a precocious understanding of site formation processes. For example, hyaena scavenging is identified from cut-marks on the bones of prey animals. The report is indeed furnished with a fastidiously drawn section diagram of the sediment deposits (which indeed slope). The excavation director, William Pengelly, carefully describes the rise and dip of each deposit and its sedimentology. However, Pengelly adhered doggedly to the use of horizontal excavation levels, both at Brixham Cave and Kent's Cavern, which were meticulously surveyed to the fractional inch (McFarlane and Lundberg 2005). After each of his 3 x 1 x 1 foot 'prisms' were excavated, the resultant finds were picked out and put in a numbered box. Thus, he didn't actually dig stratigraphically. The artefacts retrieved from horizontal excavation levels combine sloping, time-differentiated deposits that inevitably conflated different periods.

Caton Thompson doesn't mention Nina Layard in her memoirs (even though she mentions almost everybody else of consequence in British archaeological circles). Yet, it is possible that she met her through Dorothy Garrod, and also learnt of the work of similar practitioners by the same route.<sup>15</sup>

Another telling factor is that the armoury of excavation methods utilised by Garrod and Caton Thompson are more diverse than Wheeler's, so that the breadth of their approaches renders it unlikely that their systems were derived from his. The dig strategies of the three practitioners can be combined as follows:

- 1) stratigraphic (as opposed to horizontal) excavation, and measured recording of sections
- 2) systematic retrieval of materials (i.e. sieving)
- 3) precise spatial provenancing of objects (i.e. point provenience and grid-square provenience)
- 4) an understanding of the genesis of sediments (geomorphology, sedimentology)
- 5) an understanding of site formation processes affecting archaeological materials
- 6) recovery of subsistence evidence (animal bones and plant remains)

Wheeler scores one of these clearly (1) and two at the most (1, 6); Garrod scores up to five (1, 2, 4, 5 and 6); only Caton Thompson attains all six with ease.

### **The knowledge transfer from geology to archaeology**

Critically, Gertrude Caton Thompson placed great store on understanding geological processes, defining herself as 'a woman who had clear ideas on the necessary close integration of the two sciences – Pleistocene Geology and Prehistory – a gospel then struggling into existence and now a commonplace' (Caton Thompson 1983: 100). Her proficiency in earth sciences doubtless contributed to her lucid interpretation of archaeological stratigraphy - that, and the productive partnership she forged with geologist Elinore Gardner, who accompanied her on many field projects. Dorothy Garrod had a similar level of knowledge and training.

Innovations in young disciplines (such as archaeology was then) are usually driven by a critical knowledge transfer from a senior discipline. In the case of archaeology, it is clear that this involved the importation of the philosophy and techniques of geological section-drawing from the earth sciences, brought to a mature state by William 'Strata' Smith by 1817 (Winchester 2001), then rapidly taken up by a number of antiquaries in Britain and France for archaeological purposes (Schnapp 1996: 312). Boucher de Perthes and his colleagues achieved this in France in the 1830s, William Buckland even earlier at Kirkdale Cave in Britain, in the 1820s (Buckland 1824).<sup>16</sup> Indeed, of all the pioneers of scientific excavation, it is

striking that Wheeler had the least formal geological training.

### **Conclusions and possibilities**

Caton Thompson and Garrod emerge as two of the finest archaeological field practitioners to have practised in the Middle East before the Second World War. Garrod forged the greater reputation as an academic and an authority on Palaeolithic archaeology, but Caton Thompson was the superior field practitioner. Both scholars learned their archaeological field skills and their stratigraphical methods independently of Mortimer Wheeler. This circumstance is notable, given that it contradicts Wheeler's self-proclaimed introduction of stratigraphy to archaeology.

It is not surprising that Wheeler found lasting fame as a field innovator while Garrod and Caton Thompson faded from memory. Both scholars were modest and retiring and they thought little of advancing themselves in the public arena. Both published technical reports in professional venues that were read by few of their colleagues in other archaeological fields, let alone by the general public. At the height of her academic powers, and disillusioned with the cut and thrust of academic life, Garrod withdrew to a quiet life in provincial France. Well-respected, Caton Thompson sat on prestigious boards and committees but stayed in the background of academia throughout her life. With the exception of a few students such as Kathleen Kenyon, Caton Thompson did not take trainees on her excavations and there were few students to carry on her memory.

On the contrary, Wheeler was an indefatigable self-populariser throughout his long career. He trained large numbers of influential students and wrote popular books on archaeological methods in a direct, persuasive style which sold in large numbers.<sup>17</sup> Wheeler went so far as to found an entire institute (The Institute of Archaeology, University College London) for the purposes of training students in archaeological field methods. In the 1950s he was even a television star (Taylor 2001). Despite his excavations in Britain, France and India and their importance for culture history, the central research thread in Wheeler's career was the science of digging itself. If Wheeler didn't actually invent stratigraphy in archaeology, then he was the first to nurture it as a self-conscious discipline.

Mortimer Wheeler's history of good diggers is, above all, a history of Mortimer Wheeler. There are other practitioners cited in his two major works (Wheeler 1954, 1955) but invariably the only good diggers that feature in them, besides himself, are those safely long-dead and on the fringe of major academic circles, such as the Indian Army officer, Philip Meadows Taylor (Wheeler 1954: 25). After negotiating Wheeler's penetrating criticisms of luminaries such as Pitt-Rivers and Flinders Petrie, the reader is led naturally to Wheeler's own accomplishments. Thereby, Wheeler grasped the glory for himself. Given these considerations, it is not surprising that Wheeler didn't

include Garrod and Caton Thompson in his history of archaeological field methods, in spite of his high regard for both of them.

Finally, a couple of afterthoughts are worth mentioning. Smith (2009) reports that the Cambridge board went so far as to run candidates just to keep Wheeler from getting the Disney Chair in 1939. Subsequently, the post was awarded to Garrod, although Glynn Daniel (1986: 98) remembers that Caton Thompson was offered the job first. Wheeler may have resented his rejection. He arose from modest socioeconomic origins and remained on the periphery of the British academic establishment during the earlier part of his career. He was a strong personality, but one wonders whether he felt socially or intellectually unsettled by the well-connected and brilliant personages of Dorothy Garrod and Gertrude Caton Thompson.

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## Endnotes

- 1 The Middle East did not have a mortgage on bad diggers. In typical style, Kent Flannery (1976: 1) opened his work, *The Early Mesoamerican Village*, with the passage: "The Near East", Sir Mortimer once remarked at lunch, 'is the land of archaeological sin.' Such a statement could have been made only by a man who had never worked in Mesoamerica.'
- 2 The author readily concedes that the Kenyon-Wheeler account is still accurate for the Levant and the history of tell excavations.
- 3 'Cripplingly shy'; 'a lonely, self-contained figure and not particularly convivial in large groups'; 'unique, rather like a glass of pale, fine, stony, French white wine' – these are some of the impressions given by people who knew her - but she was also described as 'small, dark and alive', especially when speaking French (Smith 2009).
- 4 This was not a natural vocal characteristic but the result of a Bedouin attack in Sinai when Petrie was nearly strangled (Caton Thompson 1983: 84).
- 5 Caton Thompson (1983: 110) described the trek as a 'most delightful walk', with navigation aided by a 'fitful moon.'
- 6 After a public lecture given in 1930, Caton Thompson (1983: 156) remembers the London tabloids saying that she 'received a standing ovation, and the storm of applause made her blush and falter like a shy school-girl.'

I was 'tall and scholarly-looking, with slightly greying hair. Her appearance gives no hint of adventure (!)' As a matter of fact, I have always been a bad lecturer...'

The reviewer cannot resist commenting on her physical attributes (the fate of a high-achieving woman in any age). Then there is the frisson at the exploits of a cultured British lady working away in the back waters of the Upper Nile, the hostile sands of the Sahara, and remote Africa.

- 7 To the last, she was loathe to publicize herself, complaining that her friends had prevailed on her to write her memoirs.
- 8 Jane Callander (2004: 212) has come to a different conclusion: 'Constant amendments in the excavation reveal her struggle to understand the stratigraphy.' tend to think that these mainly involve the rectification of specific details such as dates. It is not uncommon for excavators to write down the flow of events and check the details later.
- 9 In fact, Boucher de Perthes and company didn't actually dig themselves (not that one would gather this from Boucher de Perthes' [1847-1864] account of the work). He was continually irritated by quarrymen pulling objects out of the sections ('I asked them why they hadn't come to find me, so that I could see the axe in place', Aufrère 1940:70). Consequently he was susceptible to the forgeries created by fossickers and workmen. Boucher de Perthes was later fooled by the 'Moulin Quignon forgery' (Quatrefages 1863), a human jawbone proposed as an ancient human ancestor.
- 10 De Mortillet came to this conclusion through his reading of evolutionary theory. He held that complex artefactual forms invariably developed from simpler ones, according to a unidirectional law of cultural development (Richard 2008: 171-2).
- 11 After the Second World War, Caton Thompson and Wheeler developed a strong working relationship on British Academy business and often travelled together to oversee plans for the Academy's international institutes.
- 12 Natural forces such as water transport and solifluction (mass soil creep) can produce stone-on-stone impacts that knock chips or flakes off cobbles, yielding fracture patterns that duplicate the deliberate handiwork of human knappers. Since these processes are ongoing, they are found in rocks many millions of years old (Oligocene rocks in Rutot's opinion, dating 23-39 million years ago) that must predate the origin of any hominin species.
- 13 Nina Layard was second cousin to the famous Austen Henry Layard: politician, writer and celebrated excavator of the Assyrian cities of Nimrud and Nineveh (in modern Iraq). By tunnelling into the great mounds, Layard brought to light several books of the Old Testament, did a good job of recreating the form and function of Iron Age palatial life, and returned many monumental sculptures to the British Museum (Layard 1853). But in terms of stratigraphic method he cannot hold a candle to his little-known relative.
- 14 Among others, they included V. Gordon Childe, John Evans, Austen Henry Layard, Clement Reid, Arthur Smith Woodward and Horace B. Woodward (White & Plunkett 2004).
- 15 Garrod and Layard met in Ipswich during the mid-1920s to compare artefacts, in a type of meeting they referred to as a 'flint orgy' (White and Plunkett 2004: 13). Another possible influence, though networking, may have been the American anthropologist, Charles Peabody, who excavated in Missouri according to a 5-foot grid in 1903

(the same year as Layard's Foxhall Road excavation), and later according to a 1-metre grid (Browman & Williams 2013: 217). Caton Thompson also used a 5-foot grid in the Fayum. Peabody regularly visited France and French Palaeolithic archeologists, most notably Henri Martin, one of Dorothy Garrod's principal mentors in excavation (Peabody 1914). Peabody emphasized Martin's meticulous approach and the scientific care with which he treated his specimens.

16 Buckland (1824:10-11) produced a measured, scaled section drawing of Kirkdale Cave's stratified deposits. He describes the excavations in the cave and examined environmental evidence such as Spotted Hyaena coprolites and gnawed mammal bones, leading him to a convincing interpretation of the site as a hyaena lair.

17 This is also true of Kenyon; for example her books *Beginning in Archaeology* (1952), *Digging Up Jericho* (1957) and *Archaeology in the Holy Land* (1970).