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Signs of Burning at Ancient Towns

Abstract: Many ancient long-occupied town sites in Egypt show signs of burning or combustion of walls and of adjacent soil, mostly through changes of colour towards red. This is not necessarily a sign that the towns had been subject to major fires above ground. It is more likely to be evidence that underground combustion had developed from accidental causes. Once started, such combustion maintains itself for long periods and is almost impossible to extinguish.

One of the judgements that it is open for us to make concerns the quality of life in the past. It is a subject which has drawn comments from Prof. Seidlmayer, especially in respect of the First Intermediate Period. Was this really a time that, for a large part of the population, was more stressful than others? If we are to judge that one time was worse to live in than another, we should try to include factors that had a negative impact on life that were independent of the social pressures and political decisions that we intuitively think governed (and still govern) the life of societies. I hope that Prof. Seidlmayer will find of interest my contribution to the volume of studies which honours his distinguished career at the intersection of the archaeology and history of ancient Egypt.

In the late 1970s I undertook fairly rapid surveys of several town sites with a view to understanding better the extent of urbanism in ancient Egypt, a topic which, at that time, was hard to judge from published reports.[1] With the exception of Mit Rahina the sites were in Upper Egypt (subsequently I included Zawiyet Sultan/Zawiyet El-Meitin in Middle Egypt and I have made passing observations at Tehneh el-Gebel/Achoris). All had seen large removals of the ancient debris by the digging for *sebakh* (cheap fertilizer) in the late 19th and early 20th centuries. The practice had, in some places, exposed large sections cut through the accumulated debris, or individual walls left behind as the digging proceeded. At some of them I was struck by the presence of extensive areas of walls and associated earthy debris which had been affected by heat which had turned them from faintly brown to bright orange or a deeper red in colour. My first thought was that, at times in their histories, the towns had been burnt. Had they been attacked during violent episodes of civil strife? This was, however, hard to equate with the stratigraphic evidence. Burning would surely have sent flames and destruction upwards from a common ground level, whereas the visible evidence was for the heat having penetrated downwards and horizontally as much as upwards. It occurred to me that these places had seen the development not of actual fires but of the slow smouldering of buried debris, some of it perhaps quite deeply buried.[2]

I was familiar with this as a boy growing up in the West Midlands of Britain (the time was the 1950s), part of the then appropriately named 'Black Country'. My home stood on the edge of an abandoned tract of industrial land where trees and low vegetation had largely taken over, leaving the ruins of factories, networks of overgrown railway lines and open shafts from coal mines. In the summer the area smoked from the slow combustion of the coal seams lying far underground, sometimes setting the vegetation on fire. It was where I first discovered the attraction of ruins, abandonment and dereliction, a doorway into archaeology.

Many years later I found myself living next door to just such a buried, smouldering deposit, this time of human rubbish (Fig. 1). I had, in 2006, taken a lease on an old apartment in the Darb el-Ahmar area of Cairo, not far from El-Azhar Park and the mosque of Aslan el-Silahdar. It adjoined the ruins of a small palace which consisted of a block of rooms on several floors standing at the back of a courtyard (measuring about 20 × 15 m) pierced by what had been an arched gateway to the street. Rooms on two sides of the courtyard were now being used as workshops (one of them for furniture), horses were stabled in the rooms at the back of the main building, a large amount of timber reclaimed from other buildings stood leaning against one of the sides and, what is significant for this tale, perhaps two or three metres of rubbish had accumulated within the courtyard, at its deepest against the outside wall of my own apartment on the ground floor. A makeshift dwelling had been erected in the middle of it, where a family seemed to live.

1 Kemp 1977; Kemp 1985a; Kemp 1985b; cf. Bietak 1979.

2 A convenient introduction to the subject is https://en.wikipedia.org/wiki/Smouldering (accessed on 25. 9. 2020).

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Fig. 1: The courtyard of an abandoned 'palace' in the Darb el-Ahmar district of Cairo. 'A' is the centre of underground combustion, marked by orange-coloured earth and blackening of an adjacent wall. The combustion spread throughout the debris, eventually causing architectural woodwork at the back of the building (right-hand edge of the picture) to catch fire.

The use of open spaces, at ground level or on the roofs of abandoned buildings, for the dumping of rubbish was and still is common in this part of Cairo, where the once handsome dwellings (which verge on justifying the word 'palace') have been abandoned by their original owners and have been taken over by what archaeologists sometimes call 'squatters', secondary users who convert the old splendours into workshops, car parks, storage yards or places for the easy disposal of rubbish.

I do not keep a diary so am unsure when I first noticed smoke rising from the rubbish and the smell of burning. But I recall local firemen directing water from hoses down into the debris, but to little effect. Dated photographs which I took from my roof, however, show that the smouldering came to a climax in the summer of 2011. The level of heat rose. The wall of my apartment which stood against the smouldering rubbish became warm to the touch. Eventually some of the standing woodwork in the palace caught fire. It was said that some of the stabled horses died. The local council now took firmer action. A large front-end loader was sent in, mainly on successive nights and working by floodlight, which removed the entire smouldering deposit which was taken away by trucks stationed in the narrow street outside. Once the debris had been cleared away, the main sign of the burning was the black charring of wooden beams inserted into the rough stonework of the walls. Patches of orange colour were few, suggesting that the burning had not reached the temperatures that had developed in some of the ancient sites. The courtyard has since resumed its busy life, rubbish is accumulating again but perhaps to a lesser extent. As to what had ignited the rubbish, I assume it was a minor act of carelessness, there being no obvious source of combustion in the courtyard.

In past times, the effects on the inhabitants of a town or town quarter where underground, smouldering combustion had developed will have varied because its characteristics are unpredictable. It can virtually disappear, only to reappear and reach a level of heat at which standing woodwork catches fire. It produces smoke and fumes and is thus a health hazard, but evidence from poor communities in the world shows that this does not necessarily drive people away. They resign themselves to the discomfort. It becomes one of many factors which degrade the quality of life, most of which – particularly disease which, from time to time, would have flared into an epidemic – would leave no appreciable archaeological record.

Fig. 2: View north-eastwards at Tell Edfu across the south *sebakh*-quarry. The Ptolemaic temple of Horus stands in the background. The section stands about 13 m tall.

A site which displays impressively the progress and effects of underground combustion is Tell Edfu.[3] Fig. 2 shows one side of a *sebakh* quarry cut deeply into the town mound (the Ptolemaic temple of Horus stands on ground beyond the far side of the mound). The stacked walls and strata which extend across the centre and right of the picture belong mostly to the Old, Middle and early New Kingdoms, with the remains of a much later re-occupation of the mound on top. A thick brick town wall, composed of several superimposed sections incorporating layers of earth and rubble, all coloured orange from heat, stands behind the section face (and is separately visible from the other side of the wall, close to the temple of Horus). The discolouration from heat has come from within the walls and surrounding debris; it is evidently not the result of fires attacking standing buildings. The intensity of the discolouration, hence of the heat, varies from place to place, sometimes without sharp boundaries. The variation is likely to be the result of differences in organic content and of trapped oxygen. Amongst the organic content the plant remains used in the making of mud bricks was probably significant, as would have been charcoal which, in small pieces, is ubiquitous in settlement debris. By contrast, the left portion of the section (Fig. 2) shows regular accumulation of generally fine debris in an open space, probably a street which was itself running north and closely parallel to the face of the quarry. Perhaps traffic along the street had increased the density of the debris and so reduced the oxygen content to the point at which conflagration could not occur.

Fires of this kind could have started from many causes, from an unnoticed burning of rubbish to a deliberate torching of a building. Whatever the cause, once it had found the critical combination of carbon and oxygen it would have become self-sustaining and increasingly unreachable, slowly travelling downwards and sideways. The Tell Edfu quarry face could contain the record of hidden smouldering covering decades or even longer. As to when the fire began, it looks as though it had not affected the remains of the early Eighteenth Dynasty administrative building

3 Kemp 1977, 189–191; Bietak 1979, 110–114; Moeller 2004, 262–263; Moeller 2016, 226–232.

Fig. 3: View south-eastwards at Kom Ombo, the Ptolemaic temple in the background. The remains of the edge of the Old Kingdom town emerge in the foreground, showing the characteristic change of colour caused by underground combustion. Isolated fragments of Old Kingdom town walls, exposed by old *sebakh*-digging, are similarly coloured.

towards the top. If it had started accidentally at ground level at this time it could, as it slowly spread, have contributed to the abandonment of the top of the mound.

Fig. 3 illustrates one side of the site of Kom Ombo, where the Ptolemaic temple stands on the top of a mound which was part of the town of the Old Kingdom.[4] The town had also extended outside the limits of the temple to the north-west, where much of its remains had been removed by *sebakh*-digging. Most of the mound, up to the level of the ground on which the temple now stands, had been coloured red by a particularly thorough episode of underground combustion. The area in the foreground of the picture shows standing fragments of town wall (one of them also the subject of Fig. 4) as well as an extensive surrounding area of the earthy constituents of the mound all affected by a contained and prolonged relatively low heat.

The one escape from this nuisance lay in rebuilding the town on a new site. This was a regular feature of ancient life though the reasons will have varied from place to place. In the New Kingdom urban renewal was perhaps just one aspect of the new dynamic which is widely visible in the society and culture of the times. Urban architecture and layout adopted a more expansive approach to enclosing space and accomplished this by moving down on to the floodplain. Whether deliberate or not, areas of smouldering town mound would thereby have been left behind.

The impact which underground combustion had on buried deposits makes it hard, or just impossible, to give a date to when a particular instance began. If it had begun accidentally it need have had no connection with political events. Thus, unless stratigraphic evidence can prove otherwise, it is not necessary to think, for example, that the First Intermediate Period saw an increase in the phenomenon. There might be a general rule applying here: that well developed, mature combustion needs thick and thus deeply buried deposits. The continuous development of towns through the Old Kingdom and First Intermediate Periods created the perfect conditions, which abandonment might have made even more susceptible to combustion.

4 Kemp 1985a; Moeller 2016, 231–233.

Fig. 4: One of the fragments of the Old Kingdom town wall still standing in 1979 on the north-west side of the Kom Ombo site. View to the north.

Dense human settlement – urbanism – although attractive to many people on account of perceived (and often imagined) economic advantages and prospects of social excitement raises the threats to human well-being. One of them is greater exposure to disease, but another is degradation of built environment arising from lack of concern with maintenance and lack of understanding of the dangers of unconstrained accumulation of refuse. Modern popular entertainment has given currency to the term 'dystopian' (the opposite of 'utopian') which imagines a version of the modern world in which the progress of civilising values has gone into reverse. The study of the past, however, tells us that dystopia has been a normal part of human existence since the time of the Neolithic.

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