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Çatalhöyük: A Study of Light and Darkness—A Photo-essay

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Abstract and Keywords

This photo essay outlines the experimental work undertaken in summer 2007 in Çatalhöyük in Anatolia, Turkey, while the author was the artist in residence. The work done in this Neolithic settlement led to the discovery of a sun clock, i.e. a beam of light present in each dwelling entering from the roof and drifting like a sun dial to different areas of the house. The parallelogram of light produced by the beam created a pattern of light and shadow, showing the archaeological importance of shadows and their power to reveal aspects of people's lives in the settlement. Based on the study of the shadows observed and filmed in Çatalhöyük indoors and outdoors, this chapter examines the functions and purposes of selected shadows that show how approaching archaeology from an artist's viewpoint can enhance interpretation, understanding, and the production of knowledge.

Keywords: Çatalhöyük, Anatolia, Neolithic, light, shadow, burials, puppet theatre, Turkey

Introduction

The importance of photography in archaeological interpretation can potentially move beyond its usual role as documentation (see e.g. Edwards 2001; Bohrer 2011; Long et al. 2009: 31–48; Hamilakis et al. 2009) to a new role that occupies the space between artwork and ethnographic commentary, giving a new life to images and words. Allowing photographs to evoke rather than functioning only as representations, it facilitates transient meanings between the reader/viewer and the writer/photographer/ethnographer, thus offering new ideas in our knowledge of the past (Hamilakis et al. 2009). Through digital photography, particularly evocative images of shadows were

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recorded in Çatalhöyük, a selection of which is shown here, illustrating their possible meanings and purposes. This paper proposes a reading of how shadows and light were perceived at the site, how shadows may have been manipulated in a sort of 'puppet theatre' and the relationship of shadow casting to marking time burial and other relationship with the dead.

Very few settlements present such complete Neolithic architecture as Çatalhöyük in Turkey (Hodder 2006). The site was first discovered in the late 1950s and excavated by James Mellaart between 1961 and 1965 (see also Leibhammer this volume). It was occupied for about 1,700 years, between 9,400–7,700 BCE and is very important because of its large size and dense occupation as well as the spectacular wall paintings and other art uncovered inside of houses. Since 1993, an international team of archaeologists led by Ian Hodder has carried out new excavations and research in order to shed more light on how to understand the functionality of the architecture and the life of the people that inhabited the site.

In September 1997, archaeologist Mirjana Stevanović built a replica of a Neolithic house at Çatalhöyük. The size of the house and its interior division were based on several excavated Neolithic dwellings and the schematic plan included elements selected from multiple houses. The raw materials used for the manufacture of mud bricks were gathered from the settlement or were available locally since they are regularly used in construction today. The result was the Experimental House, which is used as a display for visitors and for experimentation done either by the team or by other invited professionals from different fields. One of the major differences between the original Neolithic houses of Çatalhöyük and the Experimental House is that the former had entrances that were placed on the south-eastern corner of the roof, whereas the Experimental House has a regular door to facilitate visitors. However, the original roof entrance was still carefully replicated (Stevanović 1999, 1), so one could observe light travelling over the floor, producing shadows thereby creating a sun clock (Figure 1).



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Figure 1 27 July 2007, 08.31 hours. Light against the west wall of the Experimental House. The wind is blowing and hundreds of small birds are singing.



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Figure 2 (a) 7 August 2007, 10.32 hours. Above a trench that was dug for the construction of the north shelter. A figure seems to be standing looking out at the distance as if guarding the grave, while a tape measure is pointing to the back to its head. (b) 27 July 2007, 07.50 hours. North area. The patches of light flanking the remains of the dwelling could be interpreted as two spirits guarding the area.

Owing to the large open space and the presence of awnings, shadows appeared in the settlement illustrating possibly figurative images (Figure 2). I suggest that such shadows inspired cut-outs and figurines that were made with materials such as clay. Cut-outs may have been used to perform what we might think of as a type of puppet shadow theatre, using the 'light screen' in the east wall of the house. Sun permitting, there was a clear screen reflected on the east wall of every house in the town from about 15:30 to 16:00. The images projected during the experiments using cut outs and mud figurines were an attempt to emulate what could have been produced in

prehistoric times.

Shadows might have marked burial sites, times for burial, or purification after the buildings were burned. Furthermore, shadows produced by the human body whether walking under the sun or in the moonlight, standing by a powerful fire at night, or created by the gentle light of a lamp have always existed. Shadows have not changed. What has changed is our reading of them. Given the visual impact that shadows had on the fields of the settlement, and the possible interpretations that the powerful images present, I suggest that they may have played a role in rituals representing symbols of good and evil. They may also have functioned as indicators for funerary rites such as the timing of when a body was to be buried or unburied, and could have indicated where burials took place.

Here we have to consider the variability of the movement of the beam of light over the course of the year. My observations lasted for 30 days, and there is no record of how the patterns varied and travelled across the floors and walls of the unit during the rest of the year. Past and ongoing research indicates that light inside the Experimental House would be travelling over the graves of the buried. Recently, Grant Cox, a 3D Artist/

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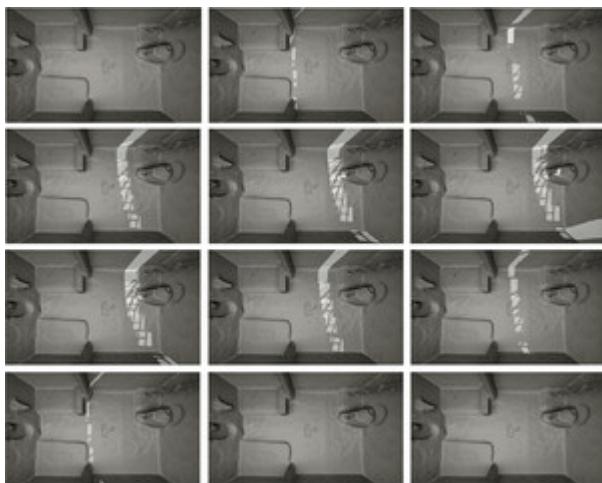
Archaeologist modelled a digital reproduction (Figure 3) of the Experimental House and simulated the journey of the sun from 15.1.2015 (8am) to 15.1.2015 (4pm) every month of the year. Further studies were carried out by Marta Perlinska and Antoni Nowak who created a 3D photogrammetric model of the experimental house. Based on that, Saba Yazdjerdi produced twelve digital images portraying the journey of the beam of light coming through the roof's aperture and travelling through the interior of the unit. Figure 4 shows the overlay of a sun beam in the interior of the house in each hour of the 21st day of each month. The beam of light gets cut out from November 15th and reappears on January 26th. The cut out happens right on the separation wall of the two rooms, indicating that the architecture of the house took into account how the light enters the place. Bearing this in mind it is possible to consider that the shadows on the floor could easily indicate a relationship between dates or burial and the position of the dead. Bodies were buried in different places and mainly in a foetal position, and shadows would move across the floor at particular times perhaps signalling particular spots under which people were buried. This process would allow the family of the deceased to engage in prayers or remembrance in a very evocative way, especially with the buried children, who were always placed near the oven (Hodder, pers. comm.).



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Figure 3 Digital reproduction of the Experimental House calculating the measurements from a photograph. A digital record of the journey of the sun was made during 2015 for 08.00, 12.00, and 16.00 hours in every month of the year.

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Figure 4 Experimental House in Çatalhöyük Turkey. Journey of the light coming through the roof's aperture and travelling through the interior in each hour of the 21st day of each month. The beam of light doesn't enter the back room, indicating that the house was designed also on the basis of light interaction with space and the activities taking place in the interior.

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The Sun Clock

In order to facilitate the reading of the beam of light entering the Experimental House, the tourists' entrance was blocked with an old mattress to stop any light from entering. This way the beam reflected on the western wall was clearly defined as it was forming from the early morning hours until dusk (Figure 5). The people of Çatalhöyük would have seen it daily and privately inside of their homes. The beam of light crossing diagonally through the steps of the ladder drew clear shapes on the surfaces of the walls and floor, indicating that time could be quantified by the position of the light shapes moving from west to east (see Papadopoulos et al. 2015 for a similar phenomenon in a Greek Neolithic house). The shapes on the wall provided not only an efficient sun clock and light for the interior, but also a constant array of moving shadow images.

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Figure 5 18 July 2007, from 08.19 until 15.58 hours.
The journey of the beam of light inside the
Experimental House.

When dusk came, the beam of light disappeared. The light shapes were first cast on the west wall, travelled across the floor, climbed up the eastern wall, and eventually disappeared. This journey started at about 8:00 and finished at roughly 18:00. This phenomenon might explain the need to have the egress to the houses on the south-eastern

corner of the roof (Hodder, pers. comm.). It is possible, though, that the position of the opening was the optimum position to let as much light as possible into the room, also avoiding the heat in summer and cold in winter. Furthermore, De Smedt and De Cruz (2011, 1) argue that as far back as the Upper Palaeolithic, calendars improved internal memory because they enabled humans to more accurately project past events into the future and therefore improve foraging success. The time of day can be easily identified by the interplay of light and shadow in nature. However, having a beam of light that could quantify time inside each house would facilitate the ordering of activities, and its study can perhaps help us to understand the causes and shifts of human behaviour.

The sun clock fulfilled a purpose and I propose that the shadows produced were not ignored; on the contrary, they were put to good use. For 30 minutes every day, sun permitting, shadow-made images would appear inside each dwelling, projected by a person simply crossing the beam of light or going up and down the ladder when coming in or out of the room (Figure 6). The possibility of a proto-theatrical performance with humans, animals, and puppets is also plausible.

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[This video cannot be viewed in PDF format. To view it, please go to the original web version of this chapter.]

Figure 6 Shadows of a young woman walking down the steps to the Experimental House. The shadows were recorded accidentally at 15.12 hours on 8 August 2007.

Shadows at Catalhoyuk

The first thing one sees on arrival at Çatalhöyük is the Experimental House and one cannot help but notice that the ceiling of the building is flat and acts as a terrace. In the south-eastern corner of the roof there is a square entrance hole with a ladder (Stevanović 1999) similar to the one outside, giving access to the roof. Terraces were either connected or with easy access to each other and were likely venues for domestic activities (Hodder 2006, 54). They could also provide resting places when people were not working the land or tending to livestock.

Elaborate paintings, reliefs, vessels and figurines have been found by archaeologists in the settlement. Clear choices were made in terms of the size, form and the contour of the figurines. Images were painted on the inside walls mainly below eye level, i.e. the horizon line, perhaps to be enjoyed while sitting on the floor. In contrast modern gallery displays hang paintings centered within the horizon line targeted towards the standing visitor, while rock art in Paleolithic caves were painted on the ceilings (See Pettitt et al. this volume). The people of Çatalhöyük were also producing a variety of objects by making use of natural materials such as wood, leather or clay, which were widely available and easy to handle as it is evident in the material record.

Throughout the year, especially during the summer when the skies were clear, the hot sun would project sharp and well-defined piercing images of shadows on the Anatolian plains. The hard edges of the dark shapes would be clear and strong, like drawings. The shadow is an important element of connection between the body and the sun that would not have escaped the inhabitants. The people of Çatalhöyük should have recognized such images, and could manipulate and use them in many different ways. This chapter suggests that these shadows were too powerful and intrusive to be ignored.

A shadow can climb a building, can be bent and sectioned as it spreads over a three-dimensional uneven surface, and can be elongated or shortened by moving closer or further away from its light source. It can be personal, accurately silhouetting the body that projects it, or it can merge with other human shadows or objects (Figure 7). Only the absence of light can erase a shadow; therefore the shadow can be connected to the power of both light and darkness as well as to the supernatural world of the spirits. Kircher (1646) describes the shadow as an admirable work of light ‘... whose antiquity, if you look at it, is most pre-eminent, whose inner nature is most wise, whose strength is most powerful, and whose fame is most worthy of praise. It blooms with such great antiquity that it seems to follow only the Creator, for before the existence of everything it rehearsed in that nothingness ...’.

How the people of Çatalhöyük understood the universe is not known, but the careful way in which houses were built to allow the sunlight into the interiors for as long as possible suggests that they were also aware of the shadows. Therefore, their response to the images and shapes created by the shadows are worth considering. While the meaning

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given to shadows may remain unknown, their existence cannot be ignored. As far back as the Palaeolithic period, animals were painted on the ceilings and walls of dark caves. By choice, the images were placed far away from the entrance and could be painted only with the help of torches and lanterns that constantly produced shadows travelling all over the paintings and in space (See Pettitt et al. this volume).



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Figure 7 Human shadows taken at several locations.

Reading Shadows

Hodder (2004) recounts an experiment that was carried out in the Experimental House in which a Çatalhöyük burial was recreated. A hole was dug into the floor, while the extracted soil had to be put somewhere temporarily during the simulation of the burial. Hodder points out that once the body was laid in the grave, excess soil had to be discarded and taken out permanently from the building. If the oven or hearth were burning at the time of the burial, clouds of dust mixed with the thick smoke of the hearth. The dust mixing with the beam of light and the shadows produced by it would have created a powerful mystical effect (Figure 8). Dry cow dung was a popular fuel that produced a relatively white-blue smoke, which would be seen rising up towards the ceiling void, directly above the oven (Figure 9). The setting inevitably would include all the shadows of the people carrying out the burial and removing the soil. Repeated journeys up and down the ladder carrying the bulk of the soil out of the building would have resulted in a constant projection of shadows on the walls and floors. It is difficult to argue that such powerful images did not have an important role in the inhabitants' life. Furthermore, horn cores and ample bucraenia, i.e. wild bulls' skulls, were found buried in the northern part of some houses. They were generally buried in plaster, reproducing 'bulls' heads', often decorated and placed in walls or set on rows on benches. It is interesting that such powerful symbolic items were placed in the northern half of the houses, precisely where a projected shadow from them was less likely. Most of them appear to have been removed before demolition of the houses, implying that they were of value.



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Figure 8 (a) 8 July 2007, 16.00 hours. Dust produced by sweeping the floor mixes with the beam of light and the shadows produced by it. The beams of light clearly point to particular sections of the floor. (b, c) 8 July 2007 at 12.00 hours. Here the dust again mixes with the beam of light, and it is possible to see a mystical connection between the light and the spiritual world.



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Figure 9 5 August 2007 between 12.30 and 13.00 hours. The beam of light can be clearly seen above the oven with the help of dust.

During summer 2007, I observed how the light started to disappear in the early afternoon inside the Experimental House. Because the sun going down moved the position of the beam of light, some moving leaves from an outside tree were suddenly reflected on the east wall through the upper steps of the ladder. The image resembled birds flapping their wings (Figure 10). In 1963 the film director Albert Hitchcock created *The Birds* using artificial sounds imitating birdcalls and wing-flapping noises, likewise the images in the Experimental House

produced disturbing scenery. If the people of Çatalhöyük had seen these shadows while the high, noisy wind, characteristic of the region, was blowing, the effect would have been too intrusive to be ignored. These interior shadows existed in a confined space designed for protection. Except for the egress that allowed the light that produced the shadows to come in, there was no other possible exit to the outside to escape from them. Especially if one were alone, they could have been very frightening.



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Figure 10 4 August 2007, 16.42 hours. East wall shadows inside the Experimental House. Images are created by leaves flapping, giving the viewer a threatening feeling.



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Figure 11 (a) 31 August 2007, 16.00 hours. Cloth hanging on a line produces strong shadows that can be seen all round the settlement. There is something sinister about them. (b) 2 August 2007, 18.02 hours. Shadow of a human and a tree. The merging of a human shadow with the shadow of a tree may have had mythical connotations.

Outside shadows are different, as they exist in an open space, in an unlimited area stretching beyond the eyes' field of view, but they can also be seen as hostile. It is probably the roughness of the ground, or the feeling of exposure and the constant perils posed by wild animals that result in a totally different feeling outside. Fear can easily fuel the imagination, illustrating monsters in the mind and giving interpretations to the active grotesque human vegetal and animal shapes formed by shadows (Figure 11).

Shadows and Spirits

The people of Çatalhöyük would have constantly seen shapes and forms produced by a variety of shadows merging with each other and drawing potent moving images. The fight for survival required above anything else, a powerful sense of observation: a skill that would not have ignored the smallest detail when confronted with danger, and would have been used as a means of defence, protection, or human interaction. The dividing line between the sense of horror and the grotesque that the images give is very thin. It all depends on the state of mind of the observer and how these images were understood. Although shadows might be similar, it is certain that the way they were perceived has changed. With ample artificial illumination, our modern society does not pay much attention to shadows or when shadows are eliminated. However, things at Çatalhöyük were different; moonlight, sunlight, hearths, and lamps amplified shadows, and it is probable that the inhabitants saw them very differently. For instance, in ancient Egypt, shadows were referred to as living entities that had an effect on the human that projected them (Budge 1898: 148–153). Given the visual power of the shadow and evidence that houses had to be purified by fire (Stevanović 2012) and then rebuilt, I propose that this

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could also be the case with shadows in Çatalhöyük. Shadows were projected from the firelight on walls and floors and could, perhaps, have been purified by burning the surfaces on which they were projected.

Hodder (2006, 54) suggests that some domestic activities took place on the roofs. Given the relatively perishable and fragile materials with which they were made, not many people would be standing on it at any one time. With this in mind, I decided to film the complete journey of the sun on a stone mortar placed on the roof of the Experimental House (Figure 12). During the filming, other shadows could be seen projected within the area of the mortar; they included my shadow, those on the neighbouring roofs, those of people moving below the house, and those of the landscape. Late in the afternoon, because of the movement of the clouds covering the sun there was a sudden arrival of a shadow from the leaves and branches of a tree that soon merged with that of the mortar. Having been on the roof at very close intervals from sunset till dawn I was probably under the spell of the shadows I was observing. I felt as if a dialogue was taking place between both shadows. Other shadows appearing and disappearing downstairs at the same instance gave shadows a life of their own. The momentum was clearly marked by time blending nature, a manmade object and the people below as well as myself. This interplay between shadows could have defined the moment when outside tasks ended, and life inside the house would begin.



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Figure 12 The effect of sun on a mortar on the roof of the Experimental House was recorded on 22 July 2007 between 17.19 and 17.53 hours. At 16.27 hours, the shadow of a tree begins to advance towards the mortar, bringing a new element of communication between the shadows.

Çatalhöyük is made up of a series of mounds and junctions. Local people believe that spirits live there (Hodder and Louise 2003). They believe that on some nights spirits appear as lights—this could be easily associated with shadows—and can be seen moving from mound to mound. The mounds, however, were also used as sources of building materials. The clay from the mounds, Hodder

explains, is ideal for making mud brick and plaster, and the walls of the houses in the nearby villages are full of artefacts from different mounds. Perhaps the spirits were active only when they appeared at night and would not be disturbed during the day. The myth is alive today, and possibly in ancient times it was believed that spirits blessed the choice of material, its transport and the final manufacture of bricks, if they were rewarded accordingly.

Day And Night Shadows

In Çatalhöyük, late in the evening when lanterns and fires were lit in the interiors, shadows may have ‘come alive’ and men and women may have seen each other in a much softer way than under the bright light of the day. Different lighting produced different shadows. Whatever powers were given to the shadows produced by the sun during the day would have been different from the powers of those produced at night by the moon, the ones reflected off a fire, or those from the light of a candle indoors, allowing for multiple interpretations. Shadows would populate the house interiors, mixed with smoke from the hearths producing images that could be read in symbolic ways. Also, depending on how many people at one time were in each house, the level of oxygen, and the temperature would change, affecting the mind and altering the perception and reading of the images. Psychedelic plants are commonly found in Çatalhöyük, although no evidence has yet been found of their use in Neolithic times. However, strong smells and heavy smoke constantly inhaled might have also have had a similar effect, influencing the perception of the moving shadows, as our human ‘sensory engagement with the material world is a key experiential mode for the generation and activation of our bodily memory’ (Hamilakis 2014, 6).

This idea could be extended to the current resistance to accepting the independent life of images, with their evocative presence and multi-sensory visuality to speak for themselves, i.e. free from the written commentary. Hamilakis, Anagnostopoulos, and Ifantidis (2009) propose a new life for both words and images: a life of evocation rather than representation. Denying this life jeopardizes the possibility of bringing into focus things that have always been there but have not been seen, felt, or experienced. The beam of light that produced the sun clock in Çatalhöyük was always there, but it required a viewer and the time to observe its movement for it to be acknowledged as such. The multi-sensory elements activated by the act of looking need no written commentary. The naked act of looking, through the excitement of curiosity, can open up new ways of seeing via its fulfilment. As part of my observations, I spent a night alone inside the Experimental House, and I watched the faded, daunting shadows on the floor and walls produced by matches and a small lantern. The space contained in a room is constant, but it can become bliss or torture depending on the atmosphere that it provides. While I was there, I was constantly reminded of the myth about the local spirits inhabiting the mounds.

To me as an artist, the shadows were imbued with many different ominous readings, but there is evidence to suggest that this view is shared by others. In his book *The Neurobiology of the Gods*, Erik D. Goodwyn (2012: 121) discusses rage and fear as systems developed by vertebrates as a means of protection. He notes that frightening symbols appear in dreams as shadowy people, i.e. human-shaped figures, shrouded in darkness. This ‘shadowy’ aspect is connected with light and darkness. If the dreamer perceives this image as a ‘shadow’ character, it likely reflects the archetypal connotations

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of darkness with fear, the unknown (never seen), and the avoidance of harm. Humans are diurnal creatures adapted to daylight, and thus we are more vulnerable at night, especially if we are alone. Goodwyn argues that in the ancestral environment, this led to adaptations that linked fear to darkness. Inside the Experimental House, for example, during the day, when the sun clock was at work and the interior was full of light, the unit seemed a lot bigger, whereas at night the house had a different feel—the space seemed much smaller and frightening.

Junichirō Tanizaki's (2001) interpretation of how shadows can create an environment, and consequently produce powerful positive emotions, could extend to making evenings easier inside Çatalhöyük's dwellings. Tanizaki describes the importance of shadows in Japanese life. Women would seem to become magical beings in the low, wavering light of a candle. Cooking is also dependent on shadows, and is inseparable from darkness to create the perfect setting. The shadows produced by a dim half-light would enhance not only the lacquer-ware objects in which food was served in the restaurants and private homes but also the pickles, fish, and greens on the plate.

At dusk, after a long day's work, the archaeologists gathered regularly, lighting fires behind the sleeping quarters in Çatalhöyük. Threatening shadowy images would emerge on the walls and floors of the settlement—figures easily recognized and linked with darkness and dimness—yet the response from the team was not fear but merriment. The interpretation of those shadow images has most certainly varied over the millennia, as knowledge alters perception; but the unconscious mind responds to rage and fear instinctively as a means of preserving the self. The shadows were outside, and being in a group we felt protected, but it only took a visit to the lavatory across the darkness of the field to transform a feeling of security into a feeling of utter fear. Humans have instincts directed at resource acquisition as well as resource-defending. Such primitive drives mobilize the organism towards the preservation of the self and future reproductive success (Goodwyn 2012: 121).

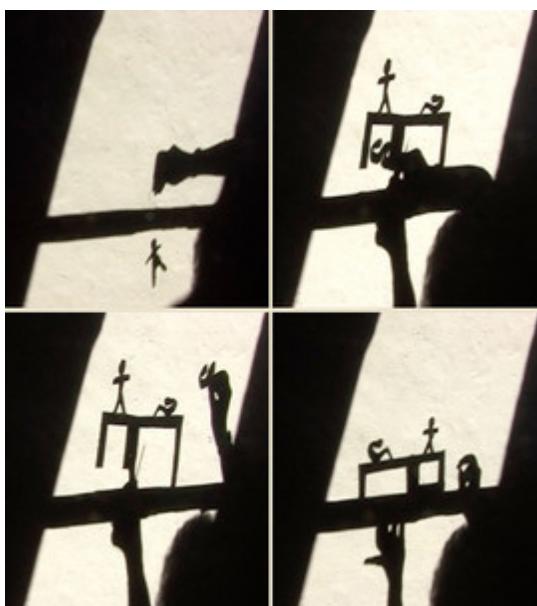
The daily shadow images of Çatalhöyük, friendly or frightful, could not be erased, and therefore a rational explanation for their appearance was probably given to enable co-existence with them. Rituals could have been used when necessary to drive out evil from shadows. Shamans and exorcists are known for their claimed powers to enter other dimensions of the human mind and, perhaps, remove evil from it. We do not know if the Çatalhöyük community included a cast of shamans or anything similar, but it is worth considering. Moreover, accompanying sounds could have exacerbated the shadows that were prevalent. When the settlement was active, there was also the sound of running water from the streams surrounding the place (Gümüş and Bar-Yosef Mayer 2013). Perhaps one of the most characteristic sounds would be footsteps—a noise that indicates particular people, enemies, and animals. In contrast with modern environments, there were no loud artificial sounds produced by engines or machinery. Sound was heard clearly and with little interference in such an environment. Shadows could be linked to sounds—for example, hearing steps and then seeing a shadow of a human. It would be

plausible for people to animate particular shadows with particular noises and elaborate stories, claimed visits from the dead, premonitions, or signs.

Shadow puppet theatre

The position of the ladder in the Experimental House was extremely useful for hanging mud figurines, cut-outs, or other objects. A series of shadows projected on the east wall's screen using my hand were also filmed, emulating a shadow puppet show (Figure 13). Although there is no archaeological evidence that proto-theatrical performances took place in Çatalhöyük, the constant presence of shadows produced by moving live-beings, hanging objects, artefacts, such as figurines, and organic materials, including reeds and straws, inspired my theory. The regularity of these proposed puppet shows cannot be accounted for; daylight must have been precious for the young and those able to work, in either hunting or farming. However, someone must have been looking after the young children and the elderly, and could have performed such activities. The only way in and out was a ladder that was steep and therefore difficult to climb. Young children and older people or those with impaired mobility, forced to remain inside the dwellings for days or weeks, could have used shadow images for storytelling.

The puppet show I created included shadows produced by the cut-outs and mud figurines that I produced with the abundant mud on the ground. I also used paperboard as a substitute for leather. The materials that are available today, i.e. mud, leather, hay, etc., were also available in the past. Although the way that these materials are used today has no similarity to their use 9,000 years ago, because of the different spatial, social, cultural and temporal context, it could be assumed that attempting to produce material culture from these materials can provide a useful comparison for investigation.



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Figure 13 1–15 August 2007. Several clips were made of puppet theatre performed on the East Wall between 16.30 and 17.00 hours with different materials on several days.

Clay figurines were often deposited in everyday areas of refuse near hearths, middens, and

oven-related contexts; they were never found in burials (Hodder 2006: 51, 53). The process of handling the mud to produce figurines was probably very similar. Given their small size, they were probably moulded with the hands. These figurines would produce very effective images for a narrative when projected as shadows on a wall, either for a puppet show or for ritualistic endeavours. Their use would vary depending on what meaning the shadows had for their spectators. Although it is an enigma how the people of Çatalhöyük responded to shadows, we know they were there, and it is not unlikely to assume that they were manipulated and used.

A person seated at the top of the roof (Figure 14) could have performed a session of shadow puppet theatre for siblings or offspring. Alternatively, a piece of fabric with cut-outs completely blocking the roof entrance, as I tested myself, would produce clear-cut images on the south wall and floor (Figure 15) that could be used for the same purpose. There is something friendly about midday interior shadows, which could be due to the bright daylight and the feeling of safety that an interior offers.



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Figure 14 (a) 17 July 2007, 16.30 hours. A 'light screen' appears on the east wall of every house. (b) 29 July 2007 at 10.02 hours. West wall. Improvised puppet theatre using the reflected light and paper-cuts of humans, a dog, and a floor mat.



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Figure 15 27 July 2007, 10.34 hours. Shadows are projected on the floor by using a soft material, with cut-out images, to block the entrance to the unit.

Light, shadow, and the dead

Hodder (2006: 169) points out that Çatalhöyük seems to be about hiding and revealing. He explains that animal reliefs, as well as wall paintings, would be covered in plaster or repainted several times. Only those who lived in the houses would know that a vulture, fox, or weasel skull lay behind a particular protrusion, or how many paintings were hidden under a continuously replastered wall. It is not known if this information would pass from one generation to the next; but while the protrusions were there we could assume that the knowledge remained. As one descended the stairs, Hodder explains, in the smoky space of the main rooms in the houses, horns would be sticking out from the walls, while under the floors there would be many buried corpses that, as with the decorations on the walls, would be revisited, ornamented, mutilated, and reburied. Some decorated skulls of the deceased would be kept in the house and later reburied with fresh corpses (Hager and Boz 2012). It is important to visualize the atmosphere that the setting described by Hodder provided when we look at the effect of light and shadow in the interiors, also given that shadows have the characteristic of both hiding and revealing objects.

At a given point in time, the beam of light could be completely vertical. Based on my observations, I suggest that it could even be a way of pointing out when a body should be unburied, its skull removed for decoration, or the time for a new body to be laid down to give it an easy journey to the afterlife. Lucy Goodison (2004) has talked about timing relating to the dead in the Tholos tombs in Crete (also see Goodison this volume), arguing that their eastern orientation might have enabled sun illuminations at particular times of

the year: times that might have signalled burial, reburial, rituals, etc. The orientation of the buried bodies in Çatalhöyük was in some cases a west-to-east direction, but this was not constant (Boz and Hager 2003); this may also indicate that the orientation depended on aspects that varied at the time of the burial. In a case where the light indicator was not in the house at the time of death, the deceased might have been buried in neighbouring houses, as the evidence also suggests; the latter also presents a different hypothesis about family structure and social life (Hodder 2013). Adults and children were buried in the north of the main room in the house, but only children were buried in the southern part by the hearth and oven, which is the area where the beam of light would travel at noon.

Conclusion

The images of shadows that illustrate this chapter were projected onto the same surfaces where the people of Çatalhöyük had seen them 9,000 years ago. The shadows that surrounded them inside and outside their dwellings differed very little from how we see them today. People probably perceived them in a similar way, but there is no doubt that they conceived them differently. Bearing in mind the bitterly cold winters and the difficult access to the homes for the old or handicapped, we can assume that many hours, quite likely weeks and months, were spent secluded inside the dwellings. Under such circumstances, it is inconceivable that the very prominent shadows, created by sunlight during the day or by fires, moonlight, or lamps at night, could have escaped the attention of the inhabitants. The deceased were buried, unburied, and reburied under platforms and floors where patterns of light and shadow travelled daily over them allowing for rituals and remembrance. The striking images reproduced in this photo essay illustrate their power.

There is relevant data showing that the inhabitants of Çatalhöyük performed rituals, burnt their houses as a means of purification, and painted stick-man images of humans, animals, and geometric patterns on their walls. Particularly during the night, animated shadows travelled over the decorated walls. Since imagery was painted on the walls mainly below the horizon line, the presence of the shadows would have been very prominent and undisturbed in the top half of the wall, and could have inspired storytelling.

By acknowledging and attending to non-material aspects of a site, we in the modern world may begin to imagine the discourse between humans and their surroundings; a world of new possibilities is revealed. The artistic imagination, applied to ethnographic study, can offer new ways of looking at prehistoric artefacts, and can widen our knowledge and interpretations of the past.

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