Chapter 7

Seasonality

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Contemporary central Anatolia has a pronounced seasonal climate, in which relatively moist, cold winters give way to hot, arid summers. Although precipitation and temperature have undoubtedly changed in the last 9000 years (Rossignol-Strick 1999; Roberts *et al.* 2001), it seems beyond doubt that seasonal change was present in the lives of Çatalhöyük's inhabitants. In the following chapter we synthesize the various strands of direct archaeological evidence pertaining to seasonality at Çatalhöyük, that is the seasonal pattern of human activity (cf. Monks 1981). In doing so we aim to show how the site's inhabitants were affected by seasonal change and how it influenced experience of life across the taskscape, that is the routine, lived-in world of experience (see Ingold 1993), by using a variety of interpretative approaches, including academic and fictional prose. It is pertinent to open this account by addressing the question: how does seasonality affect people and communities?

Seasonal variation in temperature, rainfall, windspeed, light conditions and storm periodicity have the potential to affect many aspects of human experience. One of the most direct and well-studied effects of seasonal change is on food availability, which is unevenly spread over the year depending on biological productivity cycles, reproductive cycles and, in the case of animals, migration cycles. Survival at Çatalhöyük, as in all other seasonal climates, depended on the community's ability to overcome seasonal lows in food availability, especially in the long cold season running from late autumn until mid-spring each year. Archaeological and ethnographic accounts of seasonality have largely focused on such adaptations, especially among hunter-gatherer groups (e.g. Hitchcock 1988; Hillman *et al.* 1989; papers in Rocek & Bar-Yosef 1998; Moore *et al.* 2000), including those that developed agriculture and for which seasonal stress may been an important stimulus (McCorriston & Hole 1991; Moore *et al.* 2000). These studies have isolated scheduling (i.e. planning the sequence of resource exploitation over the year), mobility (residential and logistical: see Binford 1980), changes in group size, storage, diversification and exchange/redistribution of resources, as some of the most important adaptive strategies for coping with seasonal change. Ethnographic study of seasonal adaptation by farming communities shows more emphasis on storage as the main means of securing resources, although scheduling and exchange retain a great deal of importance (Kolars 1963; papers in Huss-Ashmore *et al.* 1988; Ertuğ-Yaras 1997). Short-term mobility for foraging and hunting is also still practised in farming communities (Kent 1989; Ertuğ-Yaras 1997), as well as seasonal residential movement by sections of the community (Kolars 1963, 170; pers. observ. Küçükköy 1999). Of course, these adaptive strategies are not only used for maintaining supplies of foodstuffs, but also other material needs, such as construction timbers, fuels and for craft/industrial raw products (see Ertuğ-Yaras 1997).

Seasonal change is also one of the main temporal pulses that affects people's life experiences. The rhythmical flow of changing temperatures, day-length, light conditions and plant growth does not simply form a backdrop to human action, but conditions human experience of events at different places and times in the taskscape by altering the light conditions, comfort, temperatures and, in well-vegetated habitats, the very architecture of inhabited space as vegetation grows and dies (see Austin 2000). If the landscape is time materializing (Bender 2002), then by altering material conditions seasonal change directly affects the conception of time itself and is a central part of landscape perception. Seasonal change is thus one of the ways in which time is experienced and measured. Measurement of time and foreknowledge of future changes in conditions are important for succesfully managing agricultural or other systems of resource procurement (e.g. Kolars 1963, 127–68). Yet ethnographic studies also show that decisions about the type and timing of seasonal adaptive strategies are embedded in the social fabric of the communities being studied, whether they are hunter-gatherers

or agriculturalists. In fact, the timing of subsistence tasks and social engagements may be intimately entwined with the seasonal cycle (Couture *et al.* 1986). Rather than being automatic responses to changing conditions, response to expected and unexpected seasonal events is a product of negotiation between individuals and family / household / kin groups within an ongoing millieu of social relations, traditions and contingent events. This applies to such diverse phenomena as the decisions made about how and where to sow crops (e.g. Stirling 1965, chap. 4; Firth 1970), the provision of food and fuel to subsist through the winter (Ertuğ-Yaras 1997) and provision of the means for individuals to participate in exchanges, feasts and ceremonies, which may be important elements of seasonal survival (Monks 1981, 179; Ertuğ-Yaras 1997). Seasonal change is thus an active influence on developing social relations, providing a continuous stimulus for social action, including discontent, if bad decisions are made by groups or individuals in a position of authority. The inherent unpredictability of seasonal change provides a human independent means of provoking such discontent. Furthermore, seasonally-dependent and independent cycles of cultural or religious observances may affect the ability of a community to adequately plan for or respond to seasonal change and even make demands on resources and social ties already subject to seasonal stresses (e.g. Gill 1991, 41–3).

Climatic, hydrological and biotic seasons

As a starting point in our reconstruction, we can define some natural cycles that were to a certain extent imposed on Çatalhöyük: climatic, hydrologic and biotic. The most obvious factor, in its presence and effects, was climate, which at 1000 m on the high Anatolian plateau varied from bitterly cold, relatively damp winters to extremely dry, hot summers, as shown by climate records spanning the last fifty years (Driessen & de Meester 1969; Weatherbase n.d., Turkey pages). In nearby Çumra, average temperatures vary today from –4°C in January to 29°C in July, with temperatures reaching lows of –24°C and highs of 38°C in the same months in Konya, for which fuller climatic data are available (Weatherbase n.d., Turkey pages). Spring and autumn are cool months (average 5–16°C), with relatively rapid drops and rises in temperature at the boundaries with winter. Also typical of areas of high altitude, there are sharp drops in temperature at night. Çatalhöyük lies in one of the drier parts of the Konya basin. Earlier records over a ten year period show annual precipitation rarely exceeding 250 mm (Dreissen & de Meester 1969), although more recent figures have a slightly higher average of 315 mm over 29 years (Weatherbase n.d., Turkey pages). Either way, the region is considered semi-arid when the index of precipitation to potential evapotranspiration is calculated (see Driessen & de Meester 1969). Although rainfall is unreliable, it is concentrated in the winter and spring months, where the average monthly fall varies from 25 to 35 mm and decreases sharply in summer to a monthly average of <10 mm at Çumra (Driessen & de Meester 1969; Weatherbase n.d., Turkey pages). It is often absent through July and August, but rises gradually through autumn to its winter peak. Most rain falls in showers and storms. The latter are concentrated in spring, and fog is also a feature of the annual round, mainly occurring between November and March (Driessen & de Meester 1969; Weatherbase n.d., Turkey pages).

Local and regional palaeoclimatic research suggests that precipitation and humidity were significantly higher through much of Çatalhöyük's Neolithic occupation than the average ~250 mm seen in the present day (Fontugne *et al.* 1999; Roberts *et al.* 2001; Roberts 2002). Combined with higher temperatures, as suggested by regional climatic models (Rossignol-Strick 1999), the year at Çatalhöyük would have seen milder, wetter and more humid winters, leading into a moist warmer spring than seen in the present day. A major break in the year would have seen the onset of a dry, hot summer, following a season of storms, and ending with a rapid fall in temperature and gradual increase in rainfall. It remains uncertain whether the summer had a similar rainfall regime to the modern day or was moister (Roberts *et al.* 2001). It is also uncertain how higher precipitation and temperature affected humidity and soil moisture.

Contemporary hydrology in the Konya basin has been greatly affected by drainage and irrigation works and resembles in no way that existing at the time of Neolithic Çatalhöyük. Geoarchaeological research shows that Çatalhöyük lay on the alluvial fan of the Çarşamba Çay (river), which was active during its occupation (Roberts *et al.* 1996; 1999). The river flows from the hills to the south and deposits silt and water in the Konya basin, from which there is no natural outflow. Current geoarchaeological research suggests that, barring extended drought in the hills to the south, the site's surroundings would have had permanently high groundwater. The marshy environment has been discussed in detail elsewhere (Roberts *et al.* 1999; Asouti, Volume 4, Chapter 10; Rosen & Roberts this volume), so suffice it to say that there is indirect evidence for marked seasonal change in groundwater conditions. Of special interest is the spring flood, fed by snowmelt from the hills and mountains in

March or April, if modern peak flow figures for the Çarşamba Çay can be used to reconstruct ancient flows (see Rosen & Roberts this volume). Extensive thick alluvium in the locality of the site bears testament to the regularity and scale of this event, which inundated large areas of low-lying land. In addition, greater rainfall during the autumn, winter and spring would have led to high groundwater levels, puddling and even temporary lake formation in low-lying areas. Through late spring and summer these areas would have slowly dried out, with salt pans forming in areas with continued high groundwater and areas above the floodline becoming extremely dry.

Accompanying changes in climate and hydrology were changes in day length. Using contemporary figures, day length would have risen from a December minimum of approximately 9.5 hours to a June maximum of slightly less than 15 hours. The position of the sun would also have followed an annual cycle, lying lower in the south during the winter months, and the moon would also have shifted position regularly through the year. The annual round of changes in the moon's position would also have been superimposed by the monthly round of waxing and waning. In addition the stellar constellations would have shifted in their regular cycle from east to west during the year, with the constellations such as Orion dominating the winter skies and others, such as Scorpio, dominating the summer sky. In addition, the visible sky would also have had a distinctive cycle. While clear skies would have pertained for much of the year, autumn, winter and spring would have seen a greater incidence of cloud cover, with spring especially subject to the dramatic appearance of storm clouds, the progress of which would be visible for many tens of kilometers.

Changes in temperature, insolation and rainfall have, and would have had, a direct effect on the natural cycles of plant and animal growth. Environmental reconstructions of the area at the time of Çatalhöyük's occupation show a mosaic of habitats in reach of the site, including extensive wetlands surrounding it, as demonstrated in floral, faunal and sedimentary studies (Volume 5; Roberts *et al.* 1999; Baird this volume; Rosen & Roberts this volume). Mid-winter would have seen biological activity at its minimum. In the marshes, only the dead and decaying stems and leaves of non-woody marsh plants would be visible above the surface, with occasional flashes of green from pools, mixed with the leafless trunks and branches of dormant trees and shrubs. At this time the marsh zone would also have been home to resident and overwintering birds, including ducks, geese and grebes, coots, herons, wigeon and cranes, all of which were probably flown over by resident eagles, rooks and vultures from the mountains (see Russell & McGowan Volume 4, Chapter 3). The latter birds also probably circled the drier steppe zone to the north and the dry hills surrounding the plain, which at this time would also have seen little plant growth and were home to resident populations of Great Bustards and Partridge. We assume that larger wild animals would have been resident on the sub-environments of the plain for much of the year, for example the equids (horses and relatives) on the steppe and open forest of the hills, deer in forested areas, cattle and pigs roaming across both marshy and drier habitats. Fish would have been present throughout the year in rivers, lakes and pools, although they may not have been accessible in times of flood. Ice formation and snow may have temporarily obscured pools and blanketed the land.

With the increasing temperatures that accompanied spring, plant growth would have commenced, with the flushes of early spring flowers, accompanied by the emergence of leaves and catkins on the wetland trees. As temperatures increased, the main flush of spring flowers would have lit up the steppe zone taking advantage of the bounty of spring rains. Blossom would also have been seen in the steppe woodlands of the hill zone on trees, shrubs and ground-storey plants. Insect activity would have noticeably increased and many of the resident animals would be joined by breeding birds, such as the Red-necked Grebe, Cormorants, Spoonbill and Montague's Harrier. From spring through to autumn numerous other birds would visit on migration, perhaps most spectacular among them the Storks. Yet other birds would have migrated out of the Konya plain for breeding, including the Great Crested Grebe, White-Fronted Goose and Wigeon. These seasons would also have seen the emergence of tree leaves, and the maturing, fruiting and death of annual grasses and many herbaceous perennial plants. The green of spring in the marshes would have been perhaps maintained through to autumn, fed by permanently high groundwater levels and refreshed by the spring floods. The same cannot be said of the polychrome carpet of the steppe zone and dry hills, which would have been replaced by the straw-brown that greets the contemporary traveller for much of the summer and early autumn. As precipitation was higher during the Neolithic, it is possible that downpours of rain would have prompted flushes of growth and flowering across steppe and hill zones through the summer.

In the final turn of the seasonal wheel, autumn's cooling would instigate the maturing of tree fruits, dropping of tree leaves and the dying back of vegetation in the marshes. The loss of greenery in one part of the environment would have, to some extent, been

replaced by a flush of new greenery across the steppe and hill zones as precipitation increased, although this would have ended with the return of the winter cold. Autumn would have also seen the departure of summer resident birds and the return of winter residents.

Procurement, production, processing

In bringing humans into this seasonal picture, it is perhaps pertinent, if not predictable, to begin by considering the timing of the more important functional elements of human existence: procuring, growing, harvesting, processing and consuming resources, for food, fuel, construction, utensils, vessels and clothes. Figure 7.1 provides a seasonal schedule for these activities, and infers a range of possible times for the activities for which we have direct evidence. Inference is based largely on availability of resources, accessibility and/or availability of time to complete tasks. It is also based on biological seasons of plant and animal productivity/presence, breeding seasons or, in the case of wild tubers, palatability. Accessibility is largely inferred from the environmental model outlined above, and time availability is inferred from the distribution of tasks over the putative year. Ethnographic information discussing traditional schedules has also been referred to (e.g. Kolars 1963; Ertuğ-Yaras 1997). In using monthly divisions and modern analogues Figure 7.1 does not take into account possible changes in seasonal boundaries that may have occurred over the last nine thousand years and which remain obscure.

Taking the agrarian tasks first, there are two well-established cycles of arable production in the region today. Firstly, sowing of major 'winter' cereal and legume crops, which begins with soil tillage and sowing in October/November to take advantage of the autumn and winter rains (Ertuğ-Yaras 1997; Palmer 1998). In this system crops sit through the winter and then mature by early summer, depending on the climate of the area and crop. Barley usually precedes wheat in coming to maturation. Winter-sown wheat crops today in Anatolia mature by June (pers. observ. at Karadağ), but are reported to mature as late as August to the east (Ertuğ-Yaras 1997). Given the warmer climate of 9000 years ago, we can assume that maturation would be slightly earlier than today. Depending on the climate and crops, ploughing and sowing would have continued through the winter, possibly into spring, with crops such as lentil and bitter vetch, both important at Çatalhöyük (Fairbairn *et al.*, Volume 4, Chapter 8), possibly sown any time from January to April (Ertuğ-Yaras 1997; Palmer 1998). Crops sown in spring are part of the 'summer' crop cycle, being sown towards the end of the rainy season and requiring harvest later in the summer than winter crops. As well as producing lower yields, it is uncertain whether spring sowing would have been viable for wheat and barley grain production at Çatalhöyük, because spring sowing would have required varieties in which vernalization (exposure to cold) was not required to produce seed. If spring sowing happened at all, it would have involved the legume crops, which have much shorter growing seasons than the cereals and are commonly sown in this way today in central Anatolia (Ertuğ-Yaras 1997) and elsewhere (Palmer 1998).

In Neolithic Çatalhöyük we assume that most if not all crops would have been autumn sown and that the tasks required would have dominated the agricultural cycle, causing major drains on labour in autumn (soil preparation/sowing) and summer (harvesting). Crops would have been processed soon after harvest to build up food, fodder and crop-seed stores, extending cropping demands further into the summer. There is some evidence that processing took place on the site margins (see Fairbairn *et al.*, Volume 4, Chapter 8). As with all agricultural tasks, especially harvest, the exact time taken to complete processing would have depended on available labour. Other tasks would have included weeding of crops through the spring and early summer and possibly guarding of maturing crops. The latter is common today in the region (Hillman 1984a; Fairbairn pers. observ. 1999) and would probably have been necessary in a situation where fields were dispersed over wide areas, including the drier islands of the floodplain and hill zone beyond (see Fairbairn *et al.* 2002; Fairbairn *et al.*, Volume 4, Chapter 8).

Non-cultivated plants were also used for foods (Fairbairn *et al.*, Volume 4, Chapter 8) and crafts (Rosen, Volume 4, Chapter 9). Most archaeologically visible were the fruits and nuts, which would largely ripen and be collected in late summer and early autumn. Their source was the hill zone beyond the plain, and collection required long-distance trips to that area, perhaps undertaken for that purpose or coincident with herding and wood collection trips. While many fruits and nuts were doubtlessly eaten fresh, others would have been stored for winter use, as demonstrated by the finds in Building 1 (Fairbairn *et al.*, Volume 4, Chapter 8) and those found in earlier excavations (Helbaek 1964). Immature, soft almond outer-shells (not the kernel and inner-shell (endocarp)) are today chewed as an early summer treat (pers. observ.), and it is possible that some almond remains at Çatalhöyük derived from early season casual collection for this purpose. Use of fruits during the winter

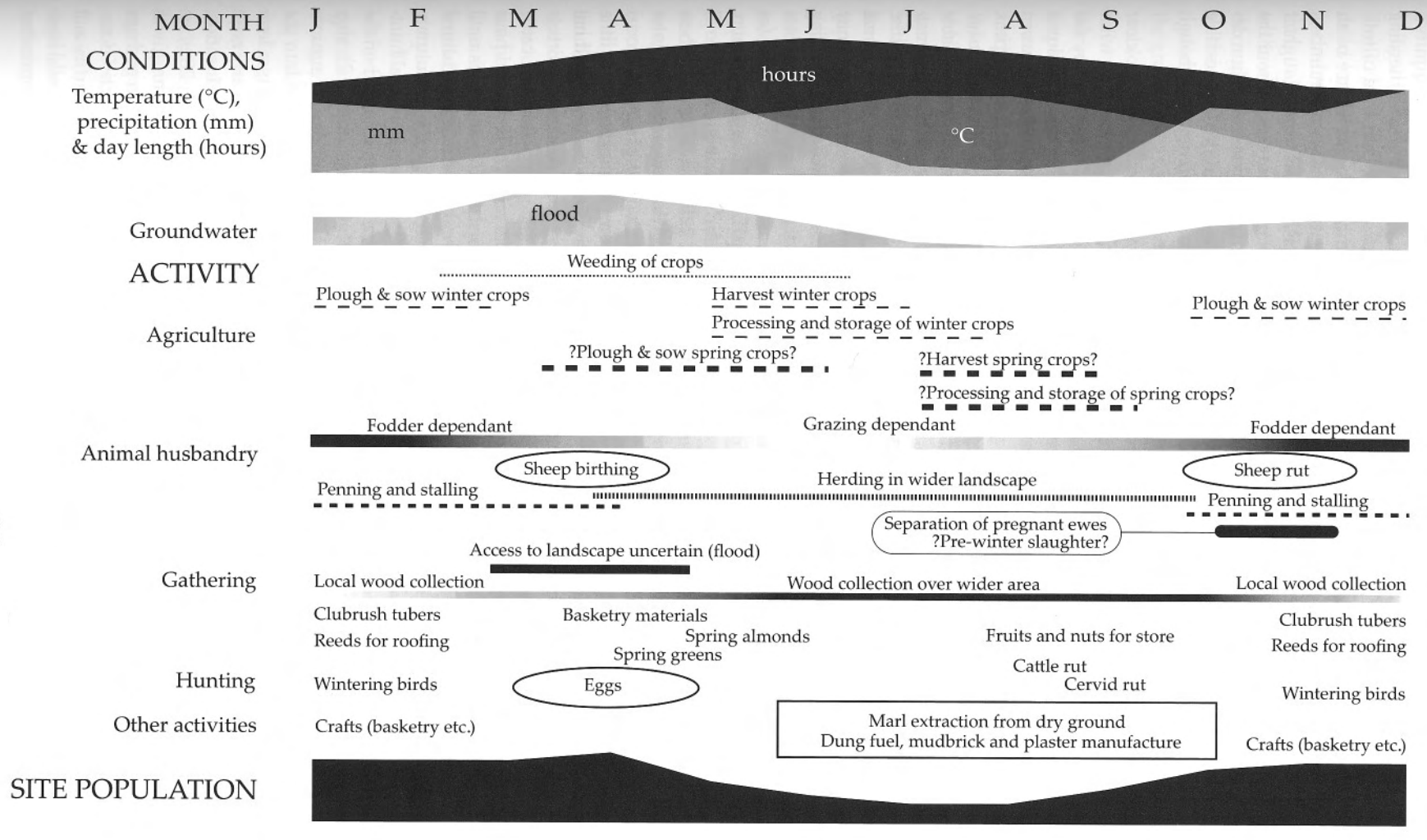

Figure 7.1. *A seasonal schedule of activities for Çatalhöyük East, showing changing environmental and speculative population conditions (for sources see text).*

would have required drying and storing directly after collection, adding to the tasks of summer and autumn. Clubrush tubers were also collected from the marshes. They would have been at maximum palatability from late summer to early spring, losing palatability during the growing season, although this need not have prevented their use as a food (see Wollstonecroft & Erkal 1999). Winter and spring collection would have been uncomfortable, and ice may have made collection impossible at certain times, but the plants would have provided a useful seasonal addition of fresh plants to a diet reliant at that time of year on stores.

It has been suggested that leafy greens were also collected (Fairbairn *et al.*, Volume 4, Chapter 8), based on ethnographic evidence in the region (Ertuğ-Yaras 1997). Greens would have been important in spring, when they would be at their prime succulence. Greens are, however, available for much of the year to the experienced hand, with their main season between October and June (Ertuğ-Yaras 1997, 201). Collection of edible greens may have accompanied collection of fibres for basketry, such as grasses, including *Agropyron*, and bast fibres used for string (Mellaart 1963d, 41; 1964e, 99; 1967, 214) and perhaps flax used for cloth (Ryder 1965; Vogelsang-Eastwood 1988), if the latter was not cultivated (see Fairbairn *et al.* Volume 4, Chapter 8). All would have been collected during the source plant's growing season and carefully dried or retted and then stored for use at a convenient time (see Hurcombe 2000). Procurement would have been in spring and summer, when plants would have been at their best, and before autumn when they would die and disintegrate. Wood collection for production of the wooden vessels found by Mellaart (1964e, 85–6) may have accompanied construction wood procurement (see below).

Animal production, based on domestic sheep and goats, would have followed a seasonal cycle, demanding time for herding flocks and providing fodder. Evidence from Spaces 198 and 199 suggests that some animals were penned at the site during the cold season (see Farid, Volume 3, Part 2; Fairbairn *et al.* Volume 4, Chapter 8; Matthews, Volume 4, Chapter 19), possibly pregnant ewes or specially selected breeding stock (Russell & Martin, Volume 4, Chapter 2). Local penning would have required provision of fodder, collected during summer and autumn. If more permanent penning of sheep/goats was practised, larger stores of fodder would have been gathered. Analysis suggests that only a proportion of the animals were penned and most were over-wintered away from the site, probably in drier areas away from the damp of the floodplain. This would have necessitated herders being away from the site for substantial periods of time and would have further drawn on the community's labour pool. The necessity for year-round herding may even be read as indicating the presence of full-time shepherds. As yet, there is little evidence of an autumnal season of slaughter, to reduce stock numbers and bulk up winter stores. Rather, animal slaughter and processing may have been done throughout the year. Only the large quantity of grease-extraction debris in Pre-Level XII phases is suggestive of a possible seasonal peak in animal resource processing, though that remains uncertain.

As well as animal production, there is clear evidence for exploitation of a large range of wild-animal resources. Egg collecting, as indicated by the shell from geese and ducks (Sidell & Scudder, Volume 4, Chapter 5), was probably concentrated between spring and early summer (March to June), with a peak in April/May at the height of the breeding season. Smaller numbers of eggs would have been available earlier and perhaps later in the summer, but the greatest supply was surely in the main nesting season. Year round hunting of birds is suggested by faunal analysis, although peaks in hunting waterfowl may have occurred in spring and autumn when migrating birds boosted bird numbers. It is also likely that winter saw greater birding activity, as in the modern day (as indicated in discussions with the Küçükköy group, and discussion by Russell & McGowan, Volume 5, Chapter 3; Ertuğ-Yaras 1997, 279), when bird numbers were high and other demands on labour few. Winter birding may have been part of a general seasonal focus on hunting during the winter, when there was little else to do and the most demanding yearly agricultural labours were past (Küçükköy group discussion; Ertuğ-Yaras 1997, 277). If wild pig, deer, equids and cattle were present throughout the year, there would have been great incentive to defer hunting activities until the cooler seasons, given the burden of agricultural and other tasks that occupied late spring to autumn. The only sure seasonal marker of large animal hunting comes in the form of deer antlers retained on the skull (Russell & Martin, Volume 4, Chapter 2), suggesting hunting during the late summer and autumn rut, which would have fallen conveniently into the beginning of the less busy season. Fishing is a less-certain activity and fishbone is not present in any great quantity, which is surprising given the site's location. Using modern analogues (Ertuğ-Yaras 1997, 282), we can suggest that, if it happened at all, fishing was undertaken in the spring and autumn, again perhaps fitting around more pressing agricultural activities.

Fuel provision to feed the ovens, hearths and external fires seen in Pre-Level XII phases would have been a major chore. Remains of wood fuel dominated

the upper-site levels, but was a constant presence alongside dung fuel, which dominated the lower site levels. In addition, straw, chaff, grasses and other dried herbaceous plantstuff were also probably used as tinder (see Ertuğ-Yaras 1997, 183–4), if not fuels in their own right (see Hillman 1984a, 142) contributing to the non-crop seed assemblages found in fireplaces throughout the site. Straw would have been brought to the outskirts of the site after harvest, and wild tinder plants would have had to be gathered through the growing season in spring and summer. Wood fuel would have in theory been available all year and may have been collected during dedicated journeys or during the completion of other tasks across the landscape, such as the collection of fruits, nuts and crops in autumn, agricultural tasks in spring and summer, and hunting/herding throughout the year (see Asouti, Volume 4, Chapter 10). It seems certain that wood collection would have been largely completed during the warmer seasons. Wet conditions in winter, combined with cold and the spring flood would have reduced access to certain parts of the plain, making collection trips difficult and providing wet wood that required drying. Dung fuel production would have entailed collection of scats from pastures or stock-holding areas, and/or wholesale removal of the basal layers of animal pens, as seen in Spaces 198 and 199, followed by shaping of dung fuel cakes and storage. Today, dung fuel is the primary fuel of Central Anatolia and an elaborate range of dung-fuel types have developed (see Ertuğ-Yaras 1997). It is impossible to say whether such elaboration was present in the past; however, the modern habit of producing and storing dung in the warmer months seems certain, as those seasons would provide the conditions to dry the cakes adequately. We can perhaps locate the earliest episode of dung cake manufacture in the spring, following the release of animals from winter penning, serving to both clean out pens and provide fuel.

Basketry, wooden bowls and other containers, leather bags, textiles and pots all contributed to the rich material culture of the site providing means of storage, transport, serving of food, clothing and helping in daily tasks, as well as being used in burial and feasting. Procurement of clay for ceramic items (pots, figurines and clay-balls: see Last, Volume 5, Chapter 5), obsidian (see Carter *et al.*, Volume 5, Chapter 12) and other stone (Baysal & Wright, Volume 5, Chapter 13) from distant sources was probably seasonal, occurring when sources were accessible and time was not taken up by other more immediate tasks. Long-distance procurement of obsidian may have also been dependent to some extent on unpredictable arrivals of exchange partners from elsewhere, although these exchanges may also have taken place at agreed times in the ritual or social calendar. Raw materials for baskets, cloth and wooden items would have been available near the site in the warmer seasons or, in the case of wood, for much of the year.

Most material-culture items are made from materials that can be stored before use, and so could have been made at any time of the year. Ethnographic accounts suggest that winter was the traditional time for making baskets and other crafts as it was free of agricultural and other major labours (Ertuğ-Yaras 1997). However, it seems possible that large burial baskets would not have been prepared in advance and so some craft production, contingent on need, probably occurred through the year. Production of stone and bone tools would also have been a continuous process, although production of some, such as points for hunting, probably peaked as a seasonal activity during winter, when most were needed. Pottery production would have required access to fuel and suitable conditions to dry pots before firing, suggesting that pottery production largely occurred in the warmer seasons. Given that summer was a busy time with many competing needs, including numerous agricultural tasks, production in the spring and autumn is most likely. Production of apparent 'luxuries' or special items, such as the obsidian mirrors (Vedder, Volume 5, Chapter 19), as well as stamp seals (Türkcan, Volume 5, Chapter 8), bone artefacts (Russell, Volume 5, Chapter 16), beads and figurines (Hamilton, Volume 5, Chapters 9 & 14), may well have occurred outside the seasons of most labour stress. Like many of the proposed production seasons for craft products, this seasonal association is predicated on the assumption that all inhabitants prioritized food production and storage over other tasks. That may not have been so, with the young, elderly and selected adults available for non-agricultural tasks, so spreading craft production over the year, as in the account of elderly women spinning while watching over newborn lambs (Ertuğ-Yaras 1997). It remains possible that obsidian mirror, figurine, bead and pottery production were part-time specialist tasks.

Wood was also an important construction material, with oak and juniper timber used in house frames (Mellaart 1967; Asouti, Volume 4, Chapter 10). The nearest substantial stands of these trees were at least 12 km to the south and importing them must have been a major task, probably involving river transport. Winter, with its lower labour demands and wetter conditions, seems to be the more likely time for such endeavours. Spring floodwaters could have been used for natural transport. Mud brick was also a major construction material, requiring quarrying of mud (Tung, Volume 5, Chapter 10), mixing with temper and

a long drying period. Any time through the warmer season would have been suitable for such activities, although spring seems most likely. Lime-plaster production would also have had potential seasonal limits. Quarrying of lake marl directly evidenced in the KOPAL 1999 and Space 181 trenches, would not have been possible during the spring flood and would have been difficult, if not impossible, during winter, when water levels were high and the ground may have been frozen. Again, the main probable season of marl extraction would have been the drier seasons when groundwater was low, perhaps in summer and/or autumn, although the latter seems more likely given the demands on community labour in the summer. Marl was processed by burning, again evidenced at the site in Pre-Level XII.B, using mixed wood and dung fuel. This could have in theory occurred at any time of the year. It may have been timed to take place at the appropriate point in house construction cycles, or as determined by the social calendar and events such as death, with which plastering may have been associated (see below).

Living, dying, celebrating and feasting

Much of the above is interpreted from the reconstructed availability of either resources or the labour required to procure and process them. Going beyond an availability derived model to reconstruct a seasonal round of real-life practices in the taskscape is altogether more difficult, as many practices leave little specific trace of their seasonal timing or location. Some practices, such as the consumption of unstorable leafy greens, fresh meat and some fruits would have occurred soon after procurement, hence availability accurately reflects the time of use. Many other food, craft, fuel and construction resources could have been prepared for storage during seasons of availability and used at a convenient or culturally appropriate time.

In general we assume that foods would have followed a seasonal trend, with fresh plant foods (leaves, fruits, etc.) being parts of the diet only 'in season', mainly from spring and through summer, supplementing stored foods that would have been universally present, but most visible in the diet in winter and spring. Fresh meat would have been potentially available year round, with any smoked or dried meat and fish products available all year. The lack of filleting marks on bones may indicate a lack of such processing of meat and the general paucity of fish remains suggests they may not have been used at all. The seasonal calendar of foods would have drawn on different ingredients and varied in tastes and textures accordingly. Food is such an important cultural expression and part of identity (Chapter 8, this volume) that through use and familiarization the regular calendar of foods would have become an expected part of the yearly cycle, anticipated and, in bad seasons, perhaps longed for: fresh greens in spring; the first of the new lambs and 'frikke' (roasted milk-ripe grain: see Hubbard & Al Azm 1990) in summer; the fresh fruits of autumn; the first of the season's fire-roast duck in winter and the egg harvest that followed.

Preparation and eating of these foods would have occurred in a variety of settings and occasions. Feasting was part of life in the settlement, especially shown in animal bone deposits, probably linked in some cases to seasonal events and, seasonal independent or dependent social/religious rituals. Celebrations of the harvest, the coming of spring (suggested in Küçükköy discussions) and other seasonal events would have overlain a cycle of socially-determined events (rites of passage, marriages etc.) and those determined by the unpredictable cycle of birth, life and death. In some cases, various seasonal and cultural cycles may have combined, in others they may have had little explicit cross-linkage. Wall paintings, for example, show hunting scenes, which if this account is accepted, may have occurred mainly in winter (although see below). Feasting would have caused a flurry of activity and preparation, demanding cooperation between and within social groups, depending on the scale (family, community etc.) and reason for the feast. The following account expresses how natural seasonal change, in this case stork migration, may have become part of a complex web of beliefs, social practice and tradition that played an important part in how the community believed its future was determined. In part the account was inspired by observations at the Çatalhöyük excavation house as storks congregated over the mound, an event that may have taken place in the distant past (see Russell & Martin, Volume 4, Chapter 2).

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The time of the storks
by Nerissa Russell

Kuran climbed the ladder to the roof shortly after dawn, even though she knew the storks would not come until the sun was high in the sky. The spiralling birds marked not only the turning of the year, but also the turning of the day, arriving when the sun climbed halfway to its zenith. Below her, Kuran heard her family stirring. As her mother-in-law revived the fire, smoke spiralled from the roof-hole, swirling skyward in anticipation of the storks. Kuran's husband and daughter spoke softly in morning tones as they folded their blankets,

murmured a prayer to greet the day, and sought the scraps from last night's dinner for their breakfast.

Looking across the rooftops, Kuran saw a few other people had already come out to wait. Loril, of course, was among them, as she had been for the past four days since the cooling and lengthening nights indicated the storks would soon arrive. Everyone eagerly awaited them and the sign they brought, but Loril and Kuran shared a special joy in their migration flight. It was as though the birds lifted their souls up to the sky people.

Kuran took up her weaving, neatly folded near the roof-hole. Normally she would sit under the shelter to work on it, but today she tied it to a corner pole of the shelter so as to sit under the open sky, facing north. People gradually filtered out onto the roofs, but the town was strangely quiet, voices hushed in anticipation. Newlyweds Domet and Yigas were relaxed and smiling today. Their new house had been finished the day before, a great relief. It was ill luck to continue building a house after the storks come; no one would want to live in it. The plaster was still damp, but it was complete, ready for the dedication that would come after the planting of the crops.

By the time the sun neared the point where the storks might come, the whole town was out on the roofs, busying themselves with little tasks, pretending it was a day like any other. Kuran's sharp eyes saw them first, catching the sun in bright flashes on the horizon. The others on her roof followed her gaze; soon all eyes followed the flock as it drifted toward them across the plain. As the first storks reached the town, they began to swirl in silent circles above it. More and more followed them and joined the spiral as it rose above the town, higher and higher until there was a funnel of thousands of birds. The lowest were clearly visible with their wings outstretched and legs trailing, while the highest birds disappeared into the sky, showing only as occasional white glints in the sun. As the storks came to the town, each person caught one bird with their eyes, and addressed to it a prayer, a wish for the coming year, for the stork to carry to the sky people. Finally the whole flock had lifted itself far into the sky. The spiral unwound into a great cloud, as the storks moved off across the plain to the south. Every year the birds paused on their journey to greet the dwellers of the town and carry their prayers skyward.

When the storks had disappeared, people began to file down across the roofs to the riverbank. After cleansing themselves in the river, they would organize preparation for the Feast of the Storks in a few days time. The birds would come again tomorrow and for two or three days more. On the day when they ceased to come, the feast would be held. The crops were stored. Now they must make beer, gather fruits, and hunt and slaughter to provide meat. Most importantly, a great bull must be captured and corralled for the sacrifice. After the feast, the planting of crops would begin; their success depended on this sacrifice. Behind the storks, the great flocks of ducks and geese would come, for the storks brought a time of plenty and promise but also warned of shortening days and the lean times that came after.

* * *

Feasting is but one kind of social interaction, albeit very clearly defined and important. Other social events and contacts would have formed indivisible parts of daily practice, formal or informal contacts occurring during the completion of daily tasks. Some parts of the year may have intensified or diluted the chance of such contacts, with the close living conditions of winter perhaps facilitating greater family contact and the dispersed activities of the other seasons diluting family contacts while enhancing contacts with others in the landscape. Seasonal demands may have also thrown spanners into the community's social machinery, providing opportunities for discontent and challenges to authority when obligations for labour or resources, demanded by social convention and family ties, were made (see discussion by Stirling 1965). Additional seasonal family needs, for example food shortages caused by bad planning, poor harvests, or chance events, may also have built up obligations, debts and credits between donors and receivers. A whole range of exchanges would have peppered the existence of the site's population, many of which would have had no explicit link to seasonal change at all.

Use of baskets, pots, wooden bowls and obsidian mirrors would have perhaps been a daily occurrence, but seasonal change would have prompted differences in the type, intensity and meaning of that use. For example baskets used at one point for collection of plant foods and fuel during autumn could have been used as storage containers for processed foods through winter. The significance of pots may also have varied with their contents (see Last, Volume 5, Chapter 5). Although the significance and meanings of specific acts of material culture use almost certainly varied with context, in many cases it is difficult or impossible to argue for an explicit seasonal association with these uses or meanings. Some figurines may have been linked to celebrations of seasonal change, such as the 'mother goddess' found by Mellaart in a grain bin (see Fairbairn *et al.*, Volume 4, Chapter 8), as may have pots with particular temper inclusions (Last, Volume 5, Chapter 5). Clothing is more likely

to have shown the effects of seasonal change, with lighter clothing suitable for summer use and heavier, thicker clothing in winter. Footwear and hats could have varied in seasonal appearance and, as with food, the seasons may have provided the opportunity for varying creative expression over the year.

While procurement and preparation of building materials probably took place during seasonal 'windows of opportunity', building construction and maintenance followed a more complex pattern. Excavation suggests that construction of new houses was part of a complex cycle of house renewal, following removal of posts from previous structures, removal of wall sculpture and ovens, and building up a platform for the new house. Deliberate burning of whole houses or specific rooms may have been part of re-modelling and re-building cycles, as suggested in Building 1. As houses were necessary for winter shelter, and summer was filled with many tasks, it is most likely that new houses were built in spring. It follows that houses were demolished and prepared for the next house at that time or in earlier seasons, perhaps then lying open over the winter. Some evidence for spring dedication of buildings comes in Space 199, where a neonatal baby was buried beneath the floor of the newly built animal pen, perhaps symbolizing the incorporation of previously external space into the built human world.

The seasonality of plastering house walls has been discussed elsewhere in detail (Boivin 2000; Matthews, Volume 4, Chapter 19). Plastering of floors and walls was a regular event, with some walls having dozens of superimposed layers of plaster. Some rooms may have simply had periodic re-plastering, including perhaps a spring renewal of the house, while others had many re-plasterings, perhaps linked to ritual cycles, social cycles or life/death celebrations, some of which may have had an explicit seasonal basis. Seasonal tending of buildings may then have been overlain by numerous cycles of re-working determined by less utilitarian concerns. Other maintenance activities included regular re-modelling of ovens, platforms and storage bins. That work, as with re-plastering, would have prevented normal habitation activity within rooms and may have not been possible in winter and the colder parts of autumn and spring. Again, we can suggest that late spring or early autumn may have been the main season for such repairs.

This brings us to living conditions around the site, which would have changed with the seasons and affected where and how life continued. Light intensity and colour, day length, vegetation and visibility of both the sky and the wider landscape would have changed over the year, contributing to changes in the atmosphere and appearance of the settlement. If modern research into mudbrick buildings and the experience of a reconstruction at Çatalhöyük is anything to go by, the houses provided well-insulated spaces in which to live. Cool in the heat of summer and warmed by ovens and hearths during the cold seasons, the atmosphere would have varied with the number of people residing there and the incidence of hearth and oven use. In winter, houses may have become crowded, with the atmosphere acrid with dung and wood smoke and fetid with the smell of damp bodies drying after hunting and other sojourns to the outside world. A warm, close and cosy place, in stark contrast to the cold, sharp and harsh world outside. These busy winter houses, crowded and alive with chatter and craft activities, would have given way to quiet in the warmer months as individuals and groups spent time away in the wider world, perhaps tending crops and flocks or engaged in long-distance exchange. The houses would have become cool and comfortable places in which to retire during the heat of the day, a dark underworld contrasting with the bright, hot daytime of the outer world. The roofscape of Çatalhöyük has received some attention as a place of activities, but surely its use reflected seasonal change. In the heat of the summer day, activity may have been sluggish, with many people in the houses below or sheltering under tents and shades. The cooler parts of the days would have seen more activity on the roofs, including food preparation, cooking, eating, visits and exchanges. In contrast, the winter scene may have been more desolate, with the roofscape being occupied fleetingly and a place of relative peace. Journeys outside may have been of necessity, rather than out of choice. One such journey is described in the following vignette, which links the different parts of the domestic domain from house to roof to animal pen.

* * *

Animal pens in winter
by Andrew Fairbairn

She coughs as the dust fills her nose. It is morning and a diffuse orange light pierces the motes of dust rising from the tightly-bound bunch of fine, flexible twigs as she expertly gathers up the remains of the night's fire and flicks them into the swollen basket. An ember glowing at the rear of the low smooth dome sparks into life as a handful of straw takes hold and is then fed by a round plate of dung. Still dulled from sleep, she goes through the motions deftly and without apparent effort, as she has done since mother joined the ancestors. The covered form on the upper platform shuffles and mutters, disturbed by the noise.

Then onto the ladder and quickly up, the cold air causes her to inhale sharply, squinting at the dazzling light reflected on the water, ice and snow. A breeze snatches at her head-cover as she carefully places her feet on the reed matting, thick with frost. Beyond the ruins of the old house another shapeless form appears on the high floor and shakes free a thick mat covering the fuel heap. A cry of annoyance signals the dampness of poorly-stored wood and a day of smoky fires.

Down and into darkness suffused with a deep musty odour. The forms in the gloom shuffle and bleat, stirred into life by the sudden human presence. Her feet feel sticky as she walks to the feed stalls, checking the bundles of grass and herbs, dried in the spring and summer, ensuring that there is enough for the rest of the day. The dampness on the floor is unavoidable, but she mutters and shakes her head, casting the basket of ash widely: a few day's worth of dark dust falling and drying the floor. Not much else can be done in this weather. She sighs, covers the basket and reaches for the ladder.

* * *

Living for months in confined spaces may also have provided the conditions for the development and spread of diseases in the community. Winter would have brought seasonal physical stress to individuals, potentially reducing resistance to any pathogens and certain diseases, such as colds and influenza, would have thrived. Close proximity to penned animals may have also provided the perfect conditions for diseases to cross the species barrier (see Diamond 1997). Physical stress, enhanced dangers of exposure and injury when abroad in the wider world and disease may have made the cold season one of a peak in deaths. Disposal of the dead would have been complicated in the winter by restrictions on access to places in the landscape and, if any external burial was practised, frozen soil and high water levels. Burial in buildings would have been particularly difficult in the winter, given the needs of families for shelter and it is possible that bodies were stored in intermediate places (graves/charnel houses) before burial beneath floors at a time of year when houses were less used. Secondary burials have been found, albeit rarely, and perhaps they are the bodies of those who died during winter. At the other end of the cycle of life, birthing is known to show a seasonal pattern in many parts of the world (Miura 1987). It is perhaps mischievous to speculate on whether a seasonal peak of births followed nine months after the end of winter preparations and permanent return of most inhabitants to the settlement from tasks dispersed across the landscape.

Residency and accessibility to settlement and landscape

Although the economic balance of different subsistence activities remains uncertain, cropping and domestic animal production involved many tasks spread throughout the year which were accompanied by the procurement of numerous wild resources drawn from a wide range of territories. With its permanent mudbrick dwellings and stores of crops, we assume that it was occupied year-round. In fact there are few data to support unequivocally this contention. Bird-bone studies are the most convincing and show the procurement through all of the seasons, year-round residents, winter residents, summer residents and migrants from autumn and spring being present in bone assemblages (Russell & McGowan, Volume 5, Chapter 3). Eggshell suggests spring and early summer habitation, and cervid antlers retained on the skull suggest hunting in autumn. Of course, animal bones may well have been curated and may have appeared at the site out of procurement season (see Monks 1981), perhaps casting some doubt on their security as seasonal markers. Other resources are of less certain seasonal origin. Many of the plant food, building and craft resources could have been procured in summer and autumn, stored and used throughout the year, so their value as unequivocal indicators of seasonal site habitation is minimal. Survey in the Konya basin shows little contemporary settlement evidence (Baird 2002), suggesting that there may have been few other significant year-round settlements to which the population could move except, perhaps, specialist stations like Pınarbaşı. Çatalhöyük was alone, and we assume that its inhabitants called the place home for much if not all of the year.

Though a sedentary, permanently-occupied site, a degree of logistical and residential mobility is suggested by various studies, and it is worth considering if and how seasonal change framed this mobility. Seasonal residential and logistical mobility is most often discussed as a hunter-gatherer adaptation, but is also a recognized and important part of life in farming settlements (e.g. Kolars 1963; Kent 1989). Agricultural practices may have required periods of residential movement by sections of the community during tending of crops, maturing of crops and their harvest, as seen in Anatolia today (Kolars 1963; Hillman 1984b). Fields appear to have been located on drier patches of land spread over a wide area of the Konya plain (Fairbairn *et al.*, Volume 4, Chapter 8), and grazing used a widely-dispersed range of habitats. Unless we expect herders and arable labourers to return daily to the environs of the site, something that was probably impractical in many cases, it is perhaps more realistic

to see camps being established over the Konya plain in which sections of the population resided when carrying out particular tasks. Some may have been temporary and visited only once, others may have been used regularly through the year and in the same seasons of different years. As well as agricultural tasks, hunting and other expeditions to the hill zone, as suggested by the pictures of conifers and goats (Mellaart 1966b), may have led to short periods away from home during autumn, winter and spring. During times of harvest and winter preparations it is possible that only certain sections of the community, such as the very young and infirm, resided and maintained life at the settlement. Although this interpretation is largely conjectural, inferred from the needs of activities spread over the plain, residential movement has been suggested as one interpretation of stable isotope patterns from animal and human bone (Richards & Pearson, Volume 4 Chapter 15). Also, further field survey and excavation should be able to ascertain whether the proposed temporary camps have any material reality.

Seasonal fissioning of the community and the journeys this entailed should not be seen in purely functional terms. While vital for provisioning the site and attending to the religious and social needs of the community, journeys would also have been social events, entwined with or forming rites of passage, looked forward to by the young and reflected on by the old. Perhaps these journeys were vital in the development of power relations and the passage of knowledge from generation to generation, as explored in the following text, which takes the form of one half of a series of dialogues.

* * *

Child
by John G. Swogger

'Child?

Child! Where are you?

Tch. Child? Where - Ah, there you are. Where have you been? What have you been doing? No, don't tell me - I don't want to know. Where is your Uncle? What do you mean you don't know? Did you not return to the - Tch. Never mind. Sit down. What? Sit down, I said! I am not interested in who you want to go back to. Sit down. Tch. You should show more respect to your elders. You are all the same, you children: you show no respect. If I had shown such disrespect when I was your age, I would have been - what? No, stay sitting there - we have a lot to get done. Fetch me that basket there. No, that one. No that one, the one you made. Tch. You still cannot fold in the ends of your weaving properly - look at the rim of this, it is all frayed and falling apart. Useless. Hnh. At least the bottom is in better shape. You do not concentrate on your work, child, that is why it is full of mistakes. You should concentrate more - and you should listen to your elders more closely, that is the mark of good behaviour. In my day, children such as yourself were better behaved. What? Did we go on the journey then? Yes! Of course - we have always gone on the journey! What a stupid question? Why would we not go? What would we do if we did not go? Tch.

In my day, we would not have asked such stupid questions. Do not be stupid, child. Now, pay attention - wait, pass me that bag. No, the one with the stones in it. Put it here, next to my knee. Now, pay attention. You ask: did we go on the journey when I was a boy? Yes, of course we did. What? Yes, I know you know this, but sit still. Stop fidgeting. Tch.

Of course we went on the journey - we always have. My father went, and his father went, and so did his father. From year to year, we always do the same things. Why? Another stupid question! Think, child - what would happen if we didn't go, hm? Well, what would happen if you didn't eat? Oh-ho! Ha, ha! Hmph. Tch. Be serious, don't make jokes. But you are right - for every thing that happens or takes place, something else happens. If you pick up a seed and let it go, does it hang in the air like a bird? No, it falls. If you push a digging stick into the earth, soil moves away from it. Do one thing, and something else will also happen. Now, these are simple things. But if you put many of these things together into one action, then many things will result.

Patience! You'll see - this is the answer. If you pick up a seed and let go, it falls; if you push a digging stick into the ground, the earth moves aside. But if you push a digging stick into the ground and let a seed fall into the hole and do it before the rains come and harvest the seeds and store them, then what happens? Yes - you have food, and meals and feasts and a full belly. You see? If you strike a piece of black stone so that it sharpens you do not simply end up with pieces of sharp stone, you end up with a blade. But the blade is the result of many, many actions, including -

Yes! Including the journey! You see? There is your answer. Life is like a skein of string - each action is a fiber that we weave into a line from day to day. And from that string we can make many things: nets, bags, rope,

houses, huts, bundles of reeds; anything. Do you have any string? Give it to me. Did you make this? Tch. You should be more careful - it is ragged and as full of lumps as a goat's winter coat. Never mind, I will use it.

So, as I was saying, life is all about many, many actions and their results, all woven into each other. Imagine the world as a piece of cloth, with every one of your actions and mine and all those of our families tiny fibers in the threads.

What colour is the cloth? Oh, be serious! Insolent child - stop laughing. These are serious matters. Stay sitting. Yes, I know who that is, but stay here - I haven't finished talking. Where is my other digging stick, the one you made? I will use this string to bind the handle. You have not smoothed the end very well, and it rubs my hand.

I will ask you a question now, to see if you have been paying attention. Why does the Bull drink from the river? No, not when - why. Answer me that - and fetch me a drink of water from that skin. Tch. Don't scuff the dust: I don't want to drink a mouthful of dust. Ah. It is good water. It is a pity you did not stitch that skin tighter, it will all leak out before the day is done.

Come - sit back down. What is your answer? Why does the Bull drink from the river? What? Because it is thirsty? Stupid boy - have I taught you nothing? Because it is thirsty? What kind of idiot answer is that?

Let us suppose you are away on the journey, far off in the grasslands in the middle of the day, with the sun beating down on your stupid head. You are thirsty, your throat is parched, your stomach dry and wilting. You are thirsty - does that mean you will drink from the river? No, of course not, because you are nowhere near the river! If you have no water, you cannot drink, no matter how thirsty you are!

Ah - you see now! Yes: the answer is many things - the Bull drinks from the river because he is thirsty and he is near the river. But there is more. What else? Yes - because there is no pack of leopards in wait. What else? Yes - because his herd is safe. You see? Many reasons, not just one. It is not enough that the Bull is thirsty, there must be other reasons. Just as string cannot be made from one fiber alone, so the Bull cannot drink from the river for one reason alone. Now think about that when you ask why we do what we do.

Precisely. Hm. Perhaps you are not altogether as stupid as you look, child. Maybe there is some sense in there somewhere. You are absolutely right - we do things for many reasons. Why do we go on the journey? To answer that question would take us a whole night of talking, which is why we do not bother to ask why we do it – the answer would take too long to say. Instead, the answer is in our deeds, and is in the doing what we do. Why do we go? Because the goats are ready to feed on the grasses, because the grasses are ready to be eaten, because the mountain people are gathered in their trading places, because the trees are filling with fruits, because the roofs of our houses need new timbers, because I miss the taste of roasted tree-berries, because your stupid aunt has forgotten where she has cached her black stone and now needs more. Tch.

Oh, look - the great birds are flying over us. It is a good omen. Perhaps it means you will remember what I have told you.

Ah-ha! I hear footsteps through the reeds.

Look, here is your uncle, at last. He found us without your help. Sit down, sit down, brother. There is water there, in that skin - child, bring the skin over. Carefully! Don't spill it, otherwise you will have to go and refill it. There - drink, brother. Are the others ready? Nearly? Good, then we shall leave this evening. They will have the fires lit and we shall leave this evening. Somehow, it seems longer than a year since we lit those fires. Yes, you are right - it has been a very wet winter. Did you notice the damage to the family fields by the seven pools? And there as well? Really, I had not noticed. There will be a great deal of work to do when - what is it now? Can you - no, sit still! No, better yet, get up. You are nothing but fidgets this afternoon. Get up. Up, up - I said! Work off some of that energy by doing something useful. Go and find your cousin and his nephews, they should be coming along the narrowest ridge by the old pens. Go and make sure they know we are here, they will be joining us for the journey. What are you waiting for? Get going! Faster!

And don't stop to dilly-dally on the way! I said -

Tch.

They run so quickly. He will trip and hurt himself if he is not more careful.

Hm? Indeed, he is a bright one, brother — look at this basket, he wove this. See how finely it has been done? Even a whole year and all that has frayed is a bit of the rim. And this string, look through the whole

skein - smooth and strong, so carefully done. Observe the stitching on that water skin - not a drop leaking. And even the end of this digging stick - look at the precision of his carving. I cannot remember even my Father carving something that fine. Yes, he is a bright one, brother – and yes, I am proud.

But of course, stupid and full of fidgets. Heh, heh - yes, brother: exactly like us.

Tch. Yes, exactly like us.'

* * *

Knowledge of the experience of the taskscape may not have necessarily been uniform for all people, with gender and age perhaps dictating who did, or was allowed to do, what and where. Some places would have been experienced routinely, such as the crop fields or local wetland birding grounds, but others may have been effectively off-limits because of social convention and habit. Places experienced during specific seasons as adults, such as hunting grounds, may have become simply places in the memory of the infirm, or places of the imagination for the eager youngster informed only by fantastic tales told around the winter fires. Intra-annual variation in residence across the taskscape would also have come with a cycle of memories and emotions. The end of winter may have combined the excited anticipation of a new gathering season with the irritation caused by months of close contact at the settlement, while the end of summer harvests (agricultural and non-agricultural) may have brought longing for an idealized home.

Seasonal change, especially the cold, winter-wetness and the spring flood would have also directly affected the ability of, and risks faced by, individuals engaged in activities across the taskscape. Wet and cold would have hampered movement around the site from late autumn through to spring and in the case of the flood may have totally isolated the site from the outside world. The hydrological round in the particular environment of Çatalhöyük would have reduced accessibility in some seasons, breaking for short periods connections with the outside world and with sections of the population burdened with the task of winter herding on the nearby steppes and hills. Medium-scale movements discussed above would have been affected, as would the small-scale daily movements of people associated with tasks closer to home, such as fodder and leaf collections, wood collection, tending to stock and birding. Changing seasonal conditions could also have affected larger-scale movements, as shown by obsidian from Cappadocia (Carter *et al.*, Volume 5, Chapter 12), palm remains from the Mediterranean (Rosen, Volume 4, Chapter 9) and marine shell from as far away as the Red Sea (Reese, Volume 4, Chapter 6). It is difficult to know whether the importation of these resources was achieved by the people of Çatalhöyük moving to the resources, by exchange, or both. However these resources reached the site, it seems more probable that transport would have occurred in the warmer seasons as winter travel would have exposed the carriers to the potentially-fatal risks of bad weather and difficulty in accessing the settlement. That said, higher water levels may have also made communication easier by boat (Rosen & Roberts this volume) and the presence of ice improved communications on foot.

Discussion

Seasonally-induced change, or seasonality, was an integral part of life at Çatalhöyük. In the turning of the year, natural forces brought about change that was beyond the control of the site's inhabitants, yet the flourishing lengthy settlement suggests that change was expected, understood and planned for. From the cold, short days of winter through the long, hazy dryness of summer and back again, the endless cycle of the seasons accompanied every moment in the life of the settlement's people. Changes in rainfall, insolation (light availability), temperature, groundwater levels and humidity would have potentially affected all aspects of life, from the form of the landscape and accessibility to it, to food production, pasture availability, living conditions, personal comfort and even the prevalence of disease. In the above text we have taken many fragments of information from archaeological and environmental investigations at Çatalhöyük and woven them into a single narrative that describes and interprets a seasonal cycle of life. This narrative sees seasonality as a rhythm: dictated at an external level by the climatic, hydrological and biological setting of Çatalhöyük itself; understood through experience and received wisdom; and, overlapped by social, personal and religious cycles dictated by established tradition and contingent events in people's lives. While the specificity and reliability of seasonality provided by any one archaeological data set varies, the overall picture, built on different levels of inference, is remarkably complex. Around seasonal certainties, speculative assignments of actions to particular seasons have been made to reveal life through the fog of prehistory. The seasonal schedule is as crowded as one would expect in a complex sedentary settlement, with a crunch time for labour in the summer being the peak of a busy year. Considering the landscape as a whole, the account

shows how places, time and activities were associated in the minds and experience of the site's people and how the focus of these experiences shifted over the taskscape with the change in the seasons.

Yet, many questions remain about this account. There is no account of diachronic change and the single narrative conflates traces of behaviour separated by up to a thousand years. This in part reflects the fragmentary nature of the excavation, which has only sampled comparable archaeological contexts from relatively few occupation levels. There is some evidence of environmental change occurring during the period of occupation (e.g. soil formation around the site in the upper levels: Roberts *et al.*, Volume 3, Part 4). Such change would have influenced seasonal activity, affecting the very physical and biological setting of the site and/or the range and composition of its territories. Changes in stone technology, pottery techniques and incidence of cookery using pots (Volume 5) could also suggest some changes in seasonal schedules or menus. Add to this any cultural change, caused by changing beliefs and/or site power structures and some cycles of activity could have been greatly altered. The identification of the seasonality of social cycles, cultural events and rituals is difficult. We have regular episodes of wall paintings and plastering, but their connection to seasonal change remains speculative.

This account also presents a rather normative picture, showing average conditions and an idealized cycle of living. What happened when this cycle failed because of bad weather, epidemics of disease, a particularly high spring flood wiping out crops in lower lying islands of the floodplain, loss of flocks due to severe winter weather, flooding of houses or large-scale burning as may have occurred in Level VI (Mellaart 1967, but see Chapter 11 this volume)? Ethnographic accounts suggest that agricultural disasters can be managed by storage of many more resources than needed, diversifying production/procurement practices and trade (e.g. see Halstead & Jones 1989). Part of the seasonal adaptation of Çatalhöyük may have involved securing ample stored foods, fuel and other materials, as well as having fields dispersed near and far, a suggestion that may otherwise be considered agriculturally disadvantageous (see Fairbairn *et al.* 2002). As noted in Chapter 4, the use of wild foods may also have been part of the management of seasonal risks. Indeed one could go so far as saying that the rather curious position of Çatalhöyük, a farming site in a swamp with discontinuous patches of nearby dry land, can be explained as an adaptation to a place of seasonal extremes and uncertainty. Diverse wild resources may have provided a buffer for domestic resource uncertainty. Responses could also draw on social obligations and personal relationships nurtured in the contexts of festivals and ceremonies.

Another normative part of this account is the inclusion of most people in activities, with exceptions made for certain gender and age groups. For example, if we accept hunting as a male pursuit, the winter hunting grounds may have been outside the direct experience of women, known only by the related (sometimes tall) tales of returning men. If the contemporary habit of Anatolian women to know most about gathering wild plants can be translated to the past, it suggests that some practices in some places would have been effectively closed to men. Of course these examples may be fictions based on over-literal application of modern practice to the past. But gender and age distinctions accepted, it is also possible that some individuals or groups were excluded by their choice or group choice from certain events. Some of the proposed management practices do suggest long-term commitments to specific tasks, such as herding. The latter would have involved ranging over a vast area of the Konya basin and appears to have gone on throughout the year (Russell & Martin, Volume 4, Chapter 2). How did families cope, both in terms of sustenance and emotionally with such absence or that caused by long-distance exchange journeys? Perhaps in such circumstances, the wider social network provided for the absent person's family. Some observances and behaviours may have been more closely linked to family or other kin grouping, rather than the whole community, as in the production/procurement of certain plant food resources (Fairbairn *et al.*, Volume 4, Chapter 8). In such cases, family seasonal schedules would have differed, as would those of individual family members if gender and age differences occurred. These possibilities must make one question the utility of schedules, as seen in Figure 7.1, beyond being community-scale over-generalizations.

When beginning this chapter the initial concerns were to establish a seasonal provisioning round, very much a functional round of activities needed to underpin life. Further study and consideration has revealed a more complex picture with seasonal change affecting all aspects of life from the social to functional and contributing to the structure and experience of the world by Çatalhöyük's inhabitants. Improving archaeological understanding of the material conditions of this world and so improving our picture of seasonality is perhaps possible in some cases. Among improvements would be sectioning of teeth to look at growth and culling patterns in livestock, attempting to excavate the fine layering of middens to perhaps pick up seasonal change and getting a firmer grip on local

seasonal climatic change at the time. Other techniques may be developed, but it should be recognized that the archaeological record may simply not record in unequivocal terms the seasonal signatures of many episodes of Çatalhöyük's life.

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