# Dreaming in the Digging Fields

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*Summary*. Archaeological excavations under the author's supervision at the Middleborough Little League Site in southeastern Massachusetts have provided a wealth of data about Native American activities over a 7,000 year time span. The author has recorded a total of 350 dreams about the site throughout the 20 seasons of its excavation (1996-2020). These are analyzed through a number of theoretical lenses. It is concluded that, while some of the dreams in this long longitudinal set may be said to confirm each of these perspectives, no theory is able to explain all of them satisfactorily.

*Keywords:* Dreams, archaeology, methodology

## 1. Introduction

The Middleborough Little League Site, in southeastern Massachusetts, has been the locus of the author's archaeological field schools through his home institution, Bridgewater State University, for 20 field seasons, from 1996 to 2019 (Hoffman 2020). It is situated on three successive terraces overlooking the Nemasket River, a major tributary of the Taunton River, and on the basis of 28 radiocarbon and optically stimulated luminescence dates it was occupied by Native Americans for over 7,000 years, from ca. 6200 B.C. to ca. 1100 A.D. Over 34,000 artifacts have been recovered from the site by our operations, which excavated an estimated 1.9% sample of the remaining site area. While it was a locus for a range of subsistence-related activities, including the processing of meat, hides, bone, and wood, its principal function throughout this period appears to have been the collection and deliberate interment of ceremonial objects, including large quantities of red, black, and yellow pigment stones, highly polished pebbles of various colors, quartz crystals (including biterminated Herkimer "diamonds"), cylindrical stone rods, and pendants. Over the course of the excavation of the site, the author has not only compiled well-documented inventories of all these recoveries, but also has recorded 350 of his dreams during this period which directly relate to the site's contents and to the process of its excavation. The current article is an attempt to provide some quantitative and qualitative analysis of these dreams, with reference to the site context, viewed through the lenses of a number of theoretical perspectives. As such, it represents a foray into the ways in which dreams relate to the practice of a particular profession, in this case, archaeology.

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Submitted for publication: November 2020
Accepted for publication: March 2021
DOI: 10.11588/ijodr.2021.1.76699

## 2. Theoretical Framework

There is an obvious symbolic connection between dream interpreters and archaeological fieldworkers: both of them dig down to discover hidden contents. The psychologist C.G. Jung, in his autobiography (1965), stated that, had he had his life to live over again, he would have wanted to be an archaeologist. Psychologists have proposed several theoretical explanations relating dream content to waking life. Freud (1913) thought that dreams represented wish-fulfillment and contained contents lodged in the unconscious which would be unacceptable to express in waking life – especially sexual imagery. Jung (1969a) considered this perspective too limited, and was more interested in the relationship between dream imagery and mythological images, both of which he considered to derive from an archetypal substrate of the unconscious which is common to all humans at all times. One of the more important contributions to the field is Gestalt Theory, as championed by Fritz Perls (1970). It concentrates on the emotional content of the dream, and considers all of the characters and features of a dream to be the dreamer's projections, even including the scenery. Another popular view, the Continuity Hypothesis, suggests that dreams contain elements drawn from recent waking experience – what Freud (1913) termed "day-residue". Numerous experimental studies have shown that many dreams contain content of this sort (e.g. Schredl 2003). A more recent theoretical perspective is that dreams evolved as adaptive mechanisms which allow for the rehearsal of simulated threats or difficult social situations (Revonsuo et al. 2015), to assist the dreamer to prepare for prospective future issues. A more reductionistic approach, the Activation Synthesis Theory, simply dismisses dreams as random firings of brain neurons (Hobson and McCarley 1977).

There have also been a number of anthropological approaches to dreams. Early efforts in the subfield of psychological anthropology (e.g. Tyler 1958) were strictly etic in their approach, adopting a Euro-American perspective on dreaming in "primitive" cultures which was largely negative and dismissive. Mid-twentieth century attempts to present a more emic perspective by Kilton Stewart (Domhoff 1990) and Carlos Castaneda (DeMille 1976) are colored by claims of misrepresentation, if they are not altogether spurious. However, more recently a number of cultural anthropologists have adopted a more nuanced, emic approach. Barbara Tedlock, herself raised in an Ojibway tradition which

values dreaming as potentially prophetic, has led the way with insightful ethnographies of dreaming traditions in several indigenous cultures of North (2004) and Central America (1992). She has affirmed that the frequent claim of traditional cultures, that dreams may be predictive of future events as well as reflective of past and present ones, is borne out in her actual dream experience. More recent researchers have been motivated by this theoretical shift to allow their own dreaming within ethnographic settings to color their perceptions of the cultures under study; for example, Michele Stephen's unsettling dreams during her apprenticeship to a Mekeo Man of Sorrow (1995) or Roger Ivar Lohmann's insightful studies of Asabano dream traditions, mingled with his own dreams while in the field (2010). These investigations have at the very least emphasized the value of appreciating dreams as sources of wisdom, not only for the cultures which have retained active dream traditions, but for the ethnographers as well.

However, nearly all of these anthropological studies have been within the subdiscipline of cultural anthropology. Very few archaeologists have contributed in a meaningful way to the discussion. I would cite Ryan Hurd's description of his own lucid dreams while attempting to interpret petroglyphs at a pre-Contact Nicaraguan island site (2011), and Paul Devereux's experiments with subjects dreaming in sacred spaces (2013) – an experimental protocol which I have had the opportunity to replicate with my own dreaming (2011). Hurd's account must be regarded as anecdotal rather than systematic, while Devereux's did not involve long-term longitudinal studies of his subjects. I would suggest that this reluctance on the part of archaeologists to involve themselves in the appreciation of dreams derives in part from the way in which we are trained as objective observers of the past, with an emphasis on quantitative evaluations of tangible data (e.g. Binford 1962), as well as the fact that dreams are essentially irretrievable from most archaeological sites – unless we discover dream texts (e.g. Hoffman 2004c) or pictorial representations (e.g. Clottes and Lewis-Williams 1998) of them. This is obviously out of the question for most sites of non-literate societies in Northeastern North America. At least one regional researcher, Edward Lenik, has pushed the envelope a bit in his interpretations of indigenous petroglyphs and pictographs based on surviving folklore (2002), but he has not related these images to dreaming.

Despite Tedlock's (1981) critique of the use of statistical methods in dream studies, my approach in this article is deliberately quantitative. I also consider it to be unlikely that any one of these theories can account for all dream experience, and the discussion below provides documentation for this ambiguity.

## 3. The Data Set

While dream recall frequency varies considerably from person to person, on the basis of EEG readings taken under controlled conditions at sleep laboratories it is estimated that almost everyone experiences at least five dream episodes per night (Aserinsky and Kleitman 1953). Similar to the artifacts at an archaeological site, it is considered unlikely that the total number of dreams experienced during a night will be retrieved. My own dream recall frequency is fairly high, averaging consistently about 1.5 dreams/night since I began recording them in 1992. Altogether, since the initial site survey at the Little League site in June of 1996, I have recorded 350 dreams which specifically refer to the site, out of a total of over 14,000 recorded dreams over the same period (2.5% of the total). The maximum number of dreams in this entire set that I was able to retrieve from a single night was five, and that was only once. Just as it is possible to estimate the total number of artifacts remaining unexcavated at the site on the basis of an excavated sample, it may also be estimated that the total number of dreams I actually had during this period would have been around 46,500. If the percentage of them which related to the site were similar to those I recalled, it would result in a total of 1,165 site dreams – of which the set presented here must be considered as only a sample, just as the retrieval of materials from an archaeological site such as the Little League Site is only a sample of the total. However, in both cases the sample is sufficiently robust that it may be

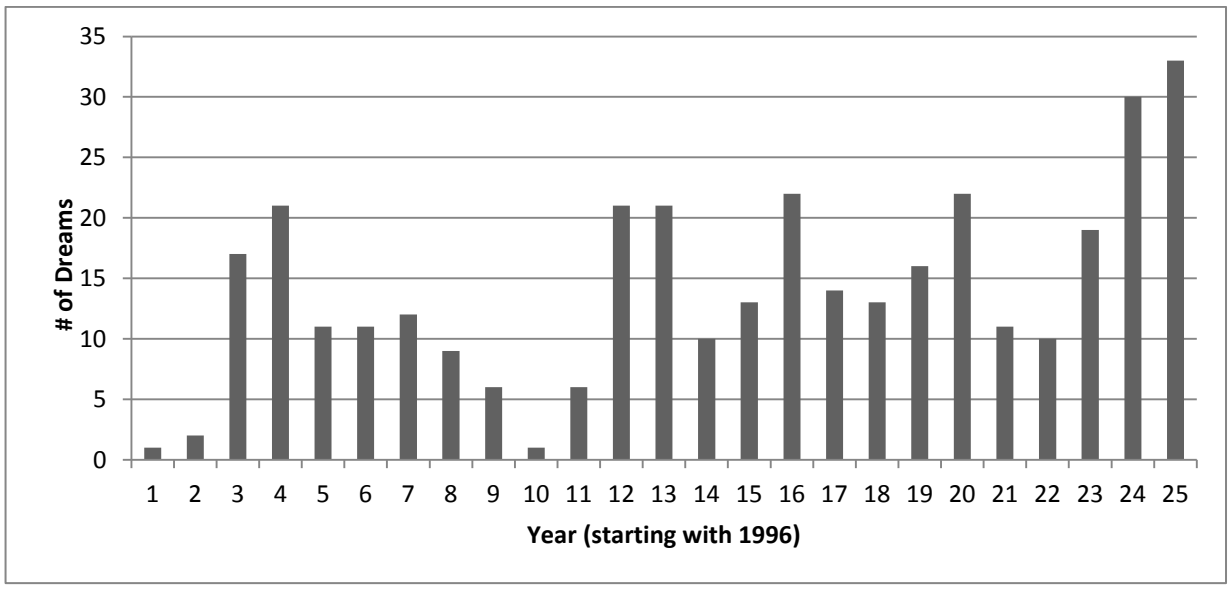


*Figure 1*. Distribution of Site Dreams by Year

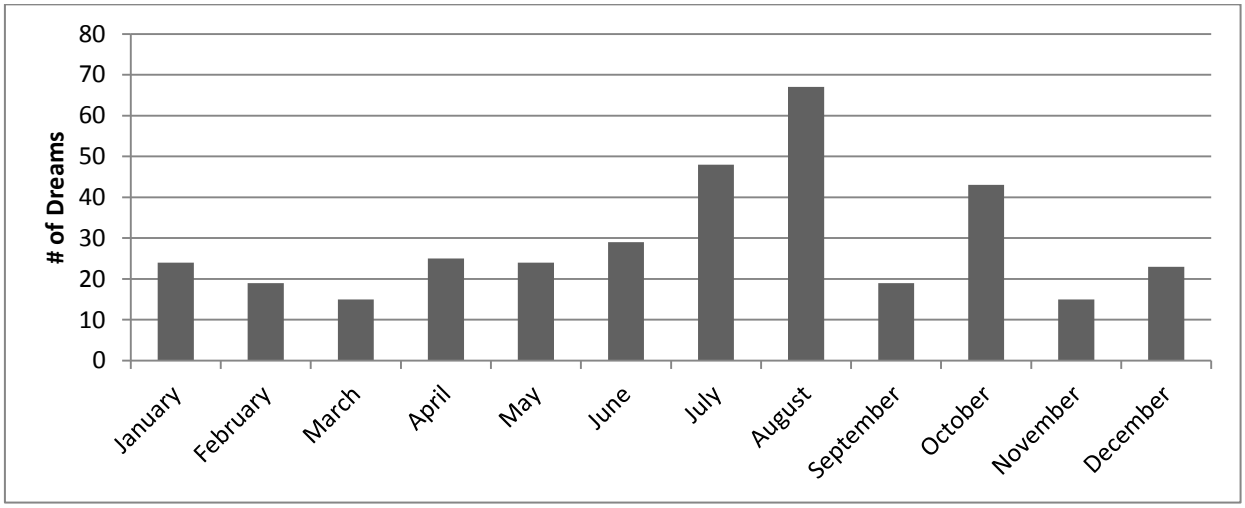


*Figure 2*. Distribution of Site Dreams by Month

considered reasonably representative of the whole. These dreams were spread throughout the entire period of the excavation, as shown in Figure 1.

## 4. Analysis of the Data Set

One of the more productive methods of investigation used by dream researchers is content analysis (Hall and Van de-Castle 1966). Similar to methods of analyzing archaeological data, it explores the frequency of specific dream contents longitudinally across a dreamer's experience over time, and also compares these contents to the experiences of other dreamers. Large dream databases have been assembled for this purpose and are available for qualitative and quantitative analysis (Domhoff 2001). Using content analysis, it is possible to explore the relationship of the body of evidence provided by my site dreams to the above hypotheses.

First, if the Continuity Hypothesis were correct, it would predict that the frequency of my dreams about the site would correlate positively to those times when the actual excavation was taking place – for most years, in July and early August. This 6-week period also includes most of the laboratory work done on the recoveries from the site, as this was an important part of the course. Figure 2 shows the results. The number of dreams certainly did peak during the months in which my field schools were at the site. However, 26 of the 65 dreams from August (40.0%) took place after the close of the field school – and the August peak continued in 2002, 2003, and 2020, when no field schools took place there. This might reflect a phenomenon I refer to as "dream decay" (2011) in which the stimulus from waking life continues in dreams for some time after the actual activity has ceased. In addition, dreaming about the site occurred in all months, but there were no dreams recalled during the field seasons in 2001 or 2006. There was also a subsidiary peak in October, with nearly as many dreams as in July, well after the close of the field school in most years.

In addition, the Continuity Hypothesis would predict that the objects about which I dreamt should correspond to the objects we were finding at the site. Table 1 compares the frequency of artifact types found at the site with the frequency of their appearance in my dreams.

It should be obvious that there is not a great deal of correlation between the two sets. Seventeen of the artifact types found at the site have never appeared in my dreams, and these include some which occurred with moderate frequencies, such as pecked pebbles, anvils, pounding stones, spokeshaves, and pendants. Other commonly found types like rods, utilized flakes, hammerstones, wedges, and preforms only occurred once or twice in dreams; but by contrast projectile points and crystals have shown up very frequently. A Contact period trade bead showed up in one dream, but none have been found at the site – nor is there any evidence of Contact period occupation there. A chi-square comparison between the two sets gave a value of 2510.43, with 39 degrees of freedom, which yields a probability of correlation of 0.00; the critical value at the .05 confidence interval for 39 degrees of freedom is 54.57. This suggests that something else besides continuity is going on.

An orthodox Freudian approach might suggest that projectile points and crystals are phallic in shape, so they might be proxies for sexual symbols – but rods and pestles, which appear rather infrequently in my dreams, are even more so. In fact, the sexual symbolism inherent in pestles, including the manner in which local Native women use them, is emphasized by effigy pestles which are clearly carved into phallic shapes (Gardner 1998). A more nuanced approach along this line might reference the emphasis many (especially male) archaeologists place on the finding and typological identification of projectile points – hence, wish-fulfillment. In fact, in all but 6 of the 28 dreams which contained points, the point types devised by archaeologists to define them were actually specified in the dream. However, the most frequently-found point type at the site, Small Stemmed, occurred only three times in dreams. So, once again, the dreams do not favor either the Continuity Hypothesis or the Wish-Fulfillment Hypothesis.

A more Jungian approach might reflect upon the archetypal significance of hunting activities and an expression of the glamor traditionally attached to meat acquisition, especially for males – and hunting, too, is akin to archaeological investigation, in that one is trying to find one's quarry in the outdoors. However, in my case this runs afoul of two facts: first, I have been a vegetarian for over 50 years, so meat holds no glamor for me; and second, use-wear analysis done subsequent to fieldwork has shown that almost all of the tools labeled as projectile points in the field were actually used for other purposes than hunting. Jung does, however, have some very cogent things to say about the

*Table 1*. Comparison of Frequencies of Artifacts at Site and in Dreams

| Type | # found | # dreams | Type | # found | # dreams |
|---|---|---|---|---|---|
| anvil | 157 | 0 | pendant | 55 | 0 |
| atl-atl weight | 2 | 0 | pestle | 96 | 2 |
| canoe anchor | 1 | 0 | petroglyph | 2 | 0 |
| celt | 1 | 0 | plummet | 3 | 0 |
| chopper | 65 | 1 | point | 139 | 28 |
| core | 513 | 4 | polished pebble | 9594 | 8 |
| crystal | 328 | 18 | pottery | 23 | 3 |
| digging tool | 25 | 1 | pounding stone | 132 | 0 |
| drill | 39 | 3 | preform | 198 | 2 |
| gouge | 2 | 0 | rod | 5132 | 1 |
| grooved weight | 2 | 1 | scraper | 1307 | 8 |
| hammerstone | 539 | 2 | sharpening stone | 20 | 1 |
| hoe | 2 | 0 | sinew stone | 5 | 0 |
| knife | 179 | 6 | smoothing stone | 12 | 0 |
| mortar | 13 | 2 | spokeshave | 83 | 0 |
| muller | 2 | 0 | trade bead | 0 | 1 |
| notched pebble | 10 | 0 | utilized flake | 1351 | 3 |
| nutting stone | 58 | 2 | wedge | 168 | 1 |
| paintstone | 13816 | 9 | whetstone | 2 | 0 |
| pecked pebble | 280 | 0 | Total | 34356 | 106 |

archetypal symbolism of crystals (1969b), especially axially symmetrical ones, like the Herkimer diamonds found at the site. Seven of the eighteen dreams about crystals specifically mention Herkimer diamonds; but they were rather infrequently found at the site (13 out of 328 crystals, or 4.0%). My research shows no other instances of these biterminated crystals reported from any other site within a 15 km radius of the site, and as far as I am aware they have been reported very infrequently outside of their source area in the Mohawk drainage of New York State, so they are rare and remarkable items.

Another way to test the continuity hypothesis is to examine the frequency of actions within this set of dreams. Many of the dreams in the set contained multiple scenes, not all of which were related to the site and its contents. After these scenes were excluded from the analysis, a total of 571 different actions were identified, for a total of 3,939 actions. Of these, 181 action types (31.7%) occurred only once, and an additional 307 action types (53.8%) occurred no more than ten times. Collectively, these amounted to 39.0% of all the actions in the set. The remaining 80 action types (14.0%) accounted for 61.0% of all the actions. Tabe 2 shows the frequency of 55 actions from this set which are specifically related to the process of archaeological survey, excavation, and laboratory work, and compares them with the frequency of these actions in the entire dream database, from the time of the initial survey onward.

As the table shows, the two most common action types, digging/excavating and finding, accounted for 7.2% of all actions (150 and 147, respectively). These, of course, are closely related to the archaeological process, and would tend to support the continuity hypothesis. Other activities common to archaeological work were far less common. Collectively, these accounted for 409 actions, or 10.3% of the total. It should be obvious from the table that some of these actions were much more frequent in the set than they were in dreams outside of it. A chi-square test comparing the frequencies of the archaeology-related actions within the set to their frequency in dreams not related to the site give a value of 1279.79 for 54 degrees of freedom, which has zero probability of correlation at any value of p (at .05 = 72.15).

Other action types unrelated to archaeology were quite common in my other dreams. The 25 remaining frequent actions are shown in Table 3. All of them are more frequent than all but the three most frequent of the archaeology-related actions. Altogether, these 25 actions comprise 32.0% of the total.

A chi-square test between these two sets provided a value of 134.52, still well above the critical value of 36.42 for 24 degrees of freedom, but far lower than the value for archaeological actions. This further suggests that something other than continuity was going on in these dreams.

Gestalt Theory, as noted above, concentrates upon the emotions within dreams, and posits that this is what dreams are mostly about (e.g. Hartmann 2014). However, slightly more than a third of the dreams I recorded (33.8%) which were set either at the site or in my lab were completely devoid of emotional content. This dream, from August 27, 1998, will serve as an example:

> *I am instructing a group of high school students in how to catalogue bone and quartz steep-edged scrapers excavated at the Middleborough site.*

These dreams also provide a challenge to Jeremy Taylor's blanket statement that "all dreams come in the service of

*Table 2*. Frequency of Archaeology-Related Actions in Site Dreams

| Action | Dream Total | Non-dream Total | Total |
|---|---|---|---|
| dig/excavate | 150 | 477 | 627 |
| find | 147 | 3304 | 3451 |
| finish/complete | 53 | 545 | 598 |
| open | 31 | 734 | 765 |
| discover | 20 | 615 | 635 |
| lay out | 18 | 40 | 58 |
| record | 18 | 18 | 348 |
| assign | 17 | 117 | 134 |
| set up | 17 | 529 | 546 |
| direct | 16 | 454 | 470 |
| backfill | 15 | 12 | 27 |
| locate | 13 | 294 | 307 |
| process | 13 | 40 | 53 |
| recognize | 12 | 500 | 512 |
| label | 11 | 72 | 83 |
| measure | 11 | 60 | 71 |
| identify | 10 | 207 | 217 |
| train/instruct | 10 | 364 | 354 |
| examine | 8 | 106 | 114 |
| catalogue | 7 | 22 | 29 |
| survey | 7 | 30 | 37 |
| calculate | 6 | 67 | 73 |
| collect | 6 | 140 | 146 |
| date | 6 | 29 | 35 |
| scrape | 6 | 38 | 44 |
| volunteer | 6 | 78 | 84 |
| sight | 5 | 19 | 24 |
| supervise | 5 | 45 | 50 |
| analyze | 4 | 16 | 20 |
| expose | 4 | 111 | 115 |
| number | 4 | 49 | 53 |
| photograph | 4 | 29 | 33 |
| sift | 4 | 11 | 15 |
| wash | 4 | 225 | 103 |
| bulldoze | 3 | 4 | 7 |
| count | 3 | 108 | 111 |
| file | 3 | 83 | 86 |
| investigate | 3 | 116 | 119 |
| seriate | 3 | 0 | 3 |
| calibrate | 2 | 1 | 3 |
| classify | 2 | 13 | 15 |
| explore | 2 | 93 | 95 |
| interpret | 2 | 40 | 42 |
| inventory | 2 | 19 | 21 |
| profile | 2 | 3 | 5 |
| streak | 2 | 8 | 10 |
| weigh | 2 | 13 | 15 |
| document | 1 | 12 | 13 |
| map | 1 | 9 | 10 |
| plot | 1 | 35 | 36 |
| quantify | 1 | 1 | 2 |
| repatriate | 1 | 3 | 4 |
| sample | 1 | 26 | 27 |
| stake out | 1 | 2 | 3 |
| Total | 706 | 9986 | 10858 |

healing."(1998) Without a doubt, some of the dreams in the set of 350 did "come in the service of healing", but not all, especially not those with no emotional content – and it would take a particularly contorted logic to force these dreams into Taylor's model.

Like the above example, many of these emotionless dream records were very short. The average recorded word count for emotionless dreams was 92.25, while that for dreams in which emotions were registered was on average more than twice as long (186.61). The longest emotionless dream had 341 words, and only twelve of these 160 dreams (7.5%) had more than 200 words, while nine (5.6%) had 25 words or less. The shortest dream had only 17 words. The longest dream containing emotions had 1,115 words, and 67 of these 190 dreams (35.3%) had more than 200 words. The shortest of them had 26 words.

Studies have shown that dreams devoid of emotion are more likely to occur in portions of the sleep cycle which are not characterized by rapid eye movement (Non-REM sleep) (e.g. Solms 1997), or during earlier, shorter REM episodes during the night (Van de Castle 1994:233). None of my dreams took place in a sleep lab, so I can't determine whether any of them were Non-REM. I also did not record the times at which dreams took place in the course of the night, but when multiple dreams were recalled from the

*Table 3*. Frequency of Non-Archaeological Actions in Site Dreams

| Action | Site Dream Total | Non-site Dream Total |
|---|---|---|
| tell | 110 | 3840 |
| show | 86 | 1928 |
| come | 77 | 3461 |
| see | 73 | 4047 |
| ask | 71 | 3658 |
| take | 63 | 3622 |
| want | 62 | 2657 |
| say | 61 | 3290 |
| need | 59 | 1637 |
| work | 59 | 1071 |
| look | 57 | 2278 |
| give | 53 | 2568 |
| make | 50 | 2783 |
| use | 50 | 2303 |
| think | 48 | 2224 |
| know | 45 | 2704 |
| try/attempt | 43 | 2559 |
| put | 41 | 1770 |
| realize | 37 | 1543 |
| leave | 36 | 2223 |
| bring | 35 | 1462 |
| agree | 34 | 1386 |
| return | 33 | 1701 |
| start | 32 | 1246 |

*Table 4*. Order in Which Non-Emotional Site Dreams Occurred

| rank: | 1st | 2nd | 3rd | Total |
|---|---|---|---|---|
| of 1 | 48 | X | X | 48 |
| of 2 | 42 | 26 | X | 68 |
| of 3 | 16 | 11 | 10 | 37 |
| of 4 | 2 | 2 | 3 | 7 |
| Total | 108 | 39 | 13 | 160 |

same night I can at least specify the rank order in which the non-emotional dreams about the site occurred. This is shown in Table 4.

The positional order of the 48 emotionless dreams which were the only ones recorded for that night obviously cannot be determined. If these are subtracted from the table, the number of emotionless dreams which occurred first in the night (60) is only slightly greater than those which occurred later in the night (52), which suggests that the lack of emotion was not closely related to the timing or duration of REM periods.

Table 5 provides a tabulation of the emotions which were registered in these dreams. Because Gestalt Theory proposes that every character in a dream is an aspect of the dreamer, all emotions are included, whether they were ones which I felt as the dreamer or if they were expressed by another character in the dream. Some dreams did contain several emotions, and could include switches from positive to negative emotions or from negative to positive emotions. This accounts for the fact that the totals below exceed the total number of dreams in the set.

Many dream researchers (e.g. Domhoff 2001) have commented on the prevalence of negative emotions in dreams. Comparing the totals of negative and positive emotions in Table 5, it certainly seems that this was the case with this set of dreams: the negative emotions outweigh the positive by a factor of almost 1.5:1. However, as shown in Figure 3, the emotionally neutral dreams equaled or exceeded the dreams with positive emotions in most years. The sum total of non-negative emotions (positive plus neutral) exceeds that of the negative emotions by a similar factor of 1.5:1. It should be noted that the emotions of fear and panic are absent from the above table. None of these dreams could be considered nightmares, and in fact my nightmare frequency in general is very low. There were only two lucid or semi-lucid dreams recorded in the set. In general, I do not have many lucid dreams.

The most common negative emotion in these dreams was a sense of incompleteness – in most cases, these were dreams of excavation units which had not been completed, especially at the close of the digging season – as might be predicted by the Continuity Hypothesis. However, because in Gestalt Theory the setting itself can be symbolic of the emotional state of the dreamer, it is possible that these dreams were also portraying "unfinished business" in my waking life, for which my dreaming mind chose the site as a symbol. This may also be expressed by the second most prominent negative emotion, errors – most often, my own errors in laying out the excavation units or errors made by excavators. There actually were some errors in laying out the units, especially from the Fall 1996 season, which resulted in some confusion when we returned to the Second Terrace in 2015. From a Jungian standpoint, this "unfinished business" is likely to reflect my Shadow, as the Shadow contains the imprint of the negative side of the psyche, including the mistakes and shortcomings to which we are all subject from time to time. In addition to Shadow work, there have also been a number of dreams which featured Anima figures, projected onto female students to whom I was attracted. And there was one dream, from August 14, 2000, which quite literally featured what Jung (1969a) called the "archetype of the Self":

*Table 5*. Emotions in Site Dreams

| Negative Emotion | # | Positive Emotion | # |
|---|---|---|---|
| Ambition | 1 | Anticipation | 3 |
| Anger | 14 | Approval | 3 |
| Being Hassled | 1 | Attraction | 5 |
| Being Stuck | 4 | Beauty | 3 |
| Boredom | 2 | Confidence | 1 |
| Brusqueness | 1 | Curiosity | 1 |
| Complaint | 14 | Eagerness | 2 |
| Concern | 10 | Elevated Mood | 2 |
| Confusion | 7 | Encouragement | 2 |
| Criticism | 3 | Enjoyment | 1 |
| Danger | 8 | Excitement | 8 |
| Demand | 4 | Friendliness | 5 |
| Difficulty | 16 | Goodness | 17 |
| Disappointment | 9 | Hope | 11 |
| Distress | 14 | Impressed | 8 |
| Doubt | 4 | Intuitive | 2 |
| Error | 22 | Love | 5 |
| Failure | 1 | Loyalty | 1 |
| Frustration | 13 | Patience | 2 |
| Incompleteness | 26 | Pleasure | 12 |
| Insistence | 3 | Promise | 3 |
| Lack of Care | 1 | Relief | 6 |
| Offense | 1 | Satisfaction | 8 |
| Opposition | 3 | Success | 9 |
| Problem | 13 | Surprise | 15 |
| Sadness | 3 | Trust | 1 |
| Shock | 3 | Upbeat Mood | 1 |
| Sinister | 1 | Welcome | 3 |
| Skepticism | 11 | Wonder | 13 |
| Suspicion | 9 | Total | 153 |
| Trouble | 1 | | |
| Unmerciful | 1 | | |
| Warning | 4 | | |
| Total | 228 | | |

*I show three stone tools that were found at my site to Russell Gardner, the Wampanoag Tribal Historian, at his*

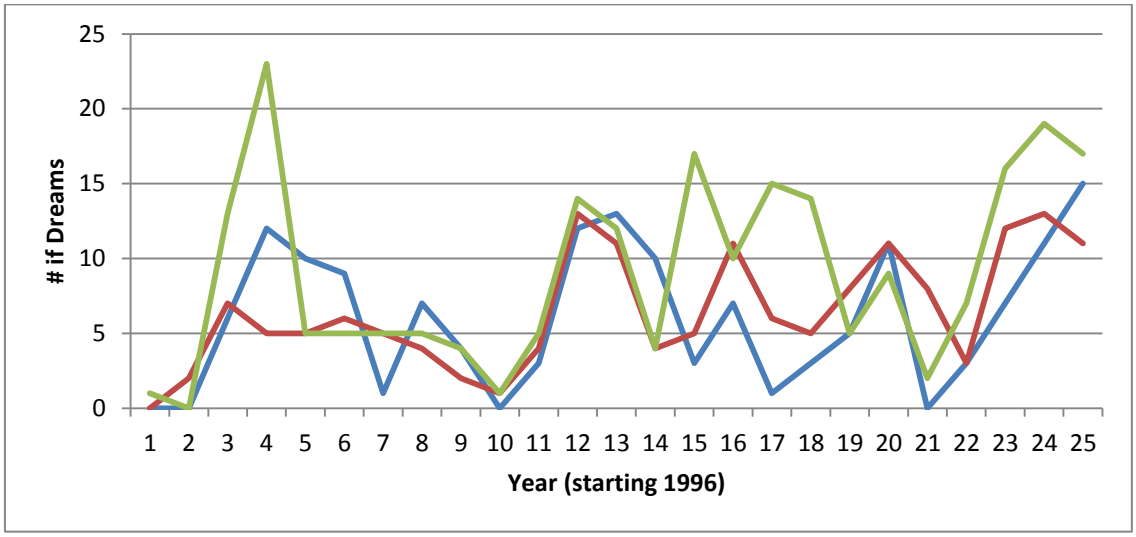


*Figure 3*. Positive (blue), Neutral (red), and Negative (green) Dreams about the Site

*home. He brings out three tools that match these perfectly -- they are the same shape and appear to be made of the same materials. It's possible that they were made by the same person. However, when I look closer, I see that one of his tools is made of wood. I ask how it's possible for him to have known that my tools would match his. A voice says, "Simple: he's the Wise Old Man."*

The most common positive emotions were a sense that things were good – a reversal of the "error" emotion – and surprise, usually upon finding something unexpected during excavation.

Turning to Revonsuo's Threat/Social Simulation Hypothesis, there were nine dreams in which threats to the site were featured. Five of these relate to construction activities which have destroyed a significant portion of the site, or which threaten to further disturb site contexts. Three refer to possible vandalism, while one dream refers to the presence of ticks at the site, some of which got on my arm. Since this area of southeastern New England is definitely one in which Lyme Disease is prevalent in the warm seasons of the year, I always advise students to take precautions to prevent contact with the deer ticks which spread it, and I apply those precautions myself. This has successfully allowed almost all of us to avoid exposure to Lyme Disease. However, vandalism has not been a serious problem at the site. While construction has taken out about 40% of the estimated original site area, all of it took place prior to the 1999 field season; yet all but one of the construction threat dreams followed the 1999 field season. Subsequently there have been occasional suggestions in the town of plans to develop the site further, but none of them has come to fruition over the past 20 years, and it is to be hoped that nominating the site to the National Register of Historic Places will preserve its remaining contents in perpetuity. If my dreams were intended to prepare me to face the threats of construction and vandalism, they did not do so very often; nor did those threats materialize.

Potentially more relevant to this data set is the more recent idea that dreams might help the dreamer to rehearse for challenging social situations (Tuominen et al. 2019a, 2019b). The social situation of my work at the site appears in a total of 105 dreams about the field school itself, 29 dreams about surveying in new units at the site, and 48 dreams set in my lab or at my computer, analyzing the material found there. The field school dreams are by far the most common in the set (30.0%) and there is one very peculiar feature about the timing of them: a total of 23 of them (21.9%) are set on the first day of fieldwork. Only two of these dreams, both from 1999, occurred during the time of the field school itself, as shown in Table 6.

The remaining July dream was from the week before field school began in 2015, and the August 2012 dream was from after it ended. Thus, with only three exceptions,

*Table 6*. First Day of Field School Dreams by Month

| Month | 99 | 00 | 07 | 09 | 10 | 11 | 12 | 13 | 15 | 16 | 18 | 19 | 20 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | | | | | 1 | | | | | 2 | 1 | | | 4 |
| February | | | | | 1 | | | | | | | 1 | | 2 |
| March | | | | 2 | | 1 | | | | | | | | 3 |
| April | | 1 | | | | 1 | | | | | 1 | | 1 | 4 |
| May | | | 1 | | | | | | 1 | | 1 | | | 3 |
| June | | | | | | | | | 1 | | | | | 1 |
| July | 2 | | | | 1 | | | 1 | | | | | | 4 |
| August | | | | | | | 1 | | | | | | 1 | 2 |

these dreams were all anticipatory of the coming year's field school – and it is striking that none of them was dreamt in the last four months of the year. By contrast, the eleven dreams about the last day of the field school tended to be in the latter half of the year, as shown in Table 7.

The July and August dreams were within the period of the field school itself, though the August ones were near its close (cf. the Continuity Hypothesis). The remainder were clearly retrospective, as the First Day dreams were prospective. This trend also continued into 2020, when there was no field school, possibly further evidence of dream decay.

However, contrary to the Social Simulation Hypothesis, preparing for field school is by no means a novel or very challenging activity for me; I have conducted field schools most summers since 1974, either with students, volunteers, or a combination of the two groups. My only concern – realized in the 1997, 2003, and 2004 seasons – was whether there would be sufficient numbers of students enrolled for the field school to run. This is purely an administrative decision, based on what the university would have to pay me to run it. But underenrollment was not the primary concern of most of these dreams. There were five dreams in which the number of excavators who showed up on the first day was smaller than I expected, but only in two cases less than 6 – the minimum for a summer course – and there were also four dreams in which the numbers were greater than I expected, so much so that I wasn't sure I'd have enough field equipment for them all. Had there actually ever been overenrollment in the field school, this would have been a real problem for the reason stated in the dreams, both in terms of available field equipment and the burden of keeping track of recoveries from such a productive site without filling a paid position for a registrar -- all within a very limited budget. So these dreams were certainly not examples of wish-fulfillment; they were as close as I came to nightmares! This suggests that while some dreams were certainly anticipatory, they were not often "rehearsals" for a stressful social situation.

The Social Simulation Theory also predicts that dreams are likely to contain more social interactions than waking life, and that they will focus upon individuals who are more important to the dreamer, especially in the dreamer's current waking life (Tuominen et al. 2019a, 2019b). The overwhelming majority of dreams in this set of 350 featured students – a category not mentioned in either of the above articles: 82 named students in 138 dreams, and 154 unnamed. A second large category were professional and amateur archaeological colleagues: 51 named in 111 dreams, 37 unnamed. Kin and friends appeared in only 29 dreams. Non-archaeological colleagues and associates appeared in 21 dreams. Other named persons appeared in 24 dreams, as well as 129 unnamed persons, and there were 41 dreams in which I was the only character. The latter comprise only 11.8% of the total, which does suggest a high degree of social engagement in these dreams, as predicted by the theory – but not 100%.

Another peculiarity in this set is that, while 58.5% of the named students appeared in dreams either in the year they were in the field school or the year following, the remainder were brought back from further in the past, in nine cases from more than 15 years prior to the dream. The average gap for these revenants was 5.3 years. Six of the students mentioned in dreams never did archaeological work with me at all, and are not included in this average. Two of the named students are unknown to me, and are also not included. While I did maintain contact with 16 of the 32 former students who appeared in later dreams, the other 16 (50.0%) were students I'd been out of contact with for quite some time when I had the dream. It does not seem that their appearance in dreams could relate to maintaining social networks, as they certainly were not persons of importance to me at the time of the dreams.

*Table 7*. Last Day of Field School Dreams by Month

| Month | 99 | 00 | 08 | 09 | 11 | 13 | 18 | 20 | Total |
|---|---|---|---|---|---|---|---|---|---|
| July | | | | 1 | 1 | | | | 2 |
| August | | 1 | 1 | | | | 1 | | 3 |
| September | | | | | | 1 | | | 2 |
| October | | | | | | | | 2 | 2 |
| November | | | | 1 | | | | | 1 |
| December | 1 | | | | | | | | 1 |

*Table 8*. Frequency of Lithic Materials in Site Dreams

| Material | Black | Brown | Clear | Green | Grey | Maroon | Pink | Red | Tan | White | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Argillite | | | | 1 | 2 | | | | | | 3 |
| Arkose | | | | | 2 | | | | | | 2 |
| Chalcedony | | | | | | 1 | | | | | 1 |
| Chert | | 2 | | | | | 1 | 1 | | 2 | 6 |
| Felsite | 4 | | | | 3 | 1 | 1 | 2 | | | 11 |
| Granite | | | | | 1 | | 1 | | | | 2 |
| Graphite | 3 | | | | | | | | | | 3 |
| Hematite | | | | | | | | 4 | | | 4 |
| Hornfels | 1 | | | | | | | | | | 1 |
| Quartz | | | 7 | 1 | | | 1 | | | 26 | 35 |
| Quartzite | | | | | 1 | | 1 | | 1 | 1 | 4 |
| Steatite | | | | | 1 | | | | | | 1 |

*Table 9*. Dreams as Predictors of Radiocarbon Ages

| Feature # | Actual Date | | Range | Dream Date | | Range |
|---|---|---|---|---|---|---|
| 83 | 3240 | ± | 140 | 1610 | | |
| 96 | 2200 | ± | 100 | 3610 | | |
| 98 | 8060 | ± | 200 | 6000 | | n/a |
| 99 | 2870 | ± | 270 | 3250 | ± | 80 |
| 102 | 3850 | ± | 140 | 5700 | ± | 100 |
| 111 | 1130 | ± | 100 | 900 | | n/a |
| 123 | 2460 | ± | 120 | 2600 | | n/a |
| 226 | 6360 | ± | 220 | 11010 | ± | 110 |

A similar time lag applied to the 51 named amateur and professional archaeological colleagues who have appeared in my dreams, though a much larger percentage of them (80.4%) were persons who had never visited the site, let alone participated in the excavation. Only six of the ten who did participate or at least visit the site appeared in dreams during or shortly after the time they worked at the site, and two of those also appeared in dreams long after their participation -- both being persons with whom I maintained close relationships thereafter. At least six of the members of this group were deceased at the time I dreamt of them. The average gap from the time they last visited the site or dug with me to the time of the dream was much wider than for students, 11.6 years.

There were also 14 non-archaeological colleagues who appeared in 16 dreams, only two of whom had ever visited the site. Among kin, my wife appeared in 17 dreams, and she certainly has visited the site; the other 13 persons, in 13 dreams, have not. The 17 other named persons included a number of actors or their roles, government officials, and historical persons, and none of them have visited the site. Some of them were identified only by first names, and I have no clear idea of who they were.

The many unnamed persons included members of various professions and ethnicities, as well as the rather indefinite "men" (17 cases) and "women" (17 cases), and the even more indefinite "someone" (23 cases). None of the other unnamed persons showed up in more than 3 dreams. In almost all of these cases, I have no idea whether or not any of these persons ever visited the site or dug there. These data suggest that while some of my dreams may have been devoted to the need to establish or maintain social networks, especially with my current or recent students, many of them did not – especially the 11.8% of the dreams in which I was the sole character.

This brings us to the last of the psychological theories, the Activation Synthesis Theory, which represents one pole of an old debate about the nature of mind. Reductionists like Hobson consider the mind to be an epiphenomenon of brain activity; that is, that everything which takes place in what we term the mind is the result of electrochemical reactions in the brain. Dreams, as manifestations of mental activity, are considered to be no more than the result of random firings of brain neurons, and consequently have no meaning. It must be stated that Hobson has somewhat revised his extreme position on this topic; he more recently (2002) stated that they are the result of chaotic firings of brain neurons, which is actually rather dramatically different if one follows Chaos Theory (Gleick 1998). As Jeremy Taylor observed,

> *The argument that dreams are "meaningless" is like saying that simply because I don't speak some particular foreign language, those who do speak it are mouthing gibberish and that it is a waste of time (or even potentially "damaging") to try to understand them. (1998:6)*

Other researchers, for example David Chalmers (1996), argue the opposite position, that the brain is an epiphenomenon of a disembodied Mind, and consequently dreams are inherently very meaningful. Jeremy Taylor was obviously among those arguing for this position. It is also in harmony with many of the world's philosophies and cultural traditions, particularly Hindu thought, all of which posit the existence of a disembodied source of all thought, whether or not it is named as a deity.

There does not seem to be any easy way of reconciling these two polar opposites, except perhaps to suggest that some dreams are more meaningful and others are more meaningless – or even, that some parts of individual dreams are more meaningful than others. For example, the tendency for my mind to call up past characters with whom I am no longer in contact into later dreams certainly does seem to have a random aspect to it. But as noted above, those characters only appear in a minority of dreams in this set.

If the Activation Synthesis Theory is correct, it would seem unlikely for dreams to be very specific and accurate as to details. We have already seen that the majority of my dreams about projectile points are specific as to type, and that most of these types are ones which have actually been found at the site. The majority of the 73 dream references to lithic (stone) materials are also both specific and accurate as to both material and color, as shown in Table 8.

These dreams referenced all of the commonly found lithic materials at the site, with the exception of limonite and granodiorite. Quartz, especially white quartz, predominates in the dreams, as it does at the site. All of the colors of materials appearing in the dreams are also matched by actual artifacts and flakes of those materials which have been found at the site – though the dreams did not necessarily occur anywhere close to the time that the artifacts in question were found. This provides some further support for the Continuity Hypothesis, and their specificity argues against randomness.

In addition, there have been 41 dreams which are specific as to where on the site they are located, in 27 cases giving either the square number or feature number. The remainder are at least specific as to on which of the three terraces they are located. Some of these dream locations are not paralleled by excavated units at the site; however they are all very specific.

Finally, there were eight dreams which provided radiocarbon dates on charcoal extracted from pit features excavated in the 2006, 2007, 2008, 2017, and 2019 seasons. One of these dreams, about a pair of problematic dates obtained in 2017 from Feature #221, was clearly retrospective, as I had it after the dates from that feature were received from the lab, but the others were all prospective, and are shown in Table 9. As is customary in New World archaeology, the radiocarbon ages are given in years B.P., "before present" (= 1950 A.D.). While my dreaming was not always an accurate predictor of these dates, it did provide the ages of the 2007 dates from Features #98, #99, and #102 in their correct

chronological order, and the dream dates for Features #99 and #123 were within their 1σ ranges, while that for Feature #111 was within its 2σ range. The most intriguing of these dreams was from a time in 2007 when I was awaiting the results of radiocarbon dating from Features #83 and #96:

> *A man brings me a letter which gives the results of radiocarbon dating at the Little League site. One of the 2 dates is around 1600 BP, the other around 3600 BP. I am gratified that these closely match my expectations. However, the dates are from the opposite features than I would have expected. I wonder if the lab made a mistake and mixed up the samples. The man points out the detailed description of each sample, and this shows that they did not mix them up. The sample from Feature #96 is correctly described as being from large chunks of wood. I will just have to accept these dates.*

I titled this dream "Reversed Dates", and as Figure 12 shows, if the dates for these features were exchanged with each other according to my expectations in the dream, both of them were accurate within 3σ for the features in question. However, eleven years later I submitted the sample from Feature #221 in two bags, with instructions to the lab that they should combine them. The lab lost the instructions and assumed that I wanted them run separately. Although the samples were very definitely from the same small charcoal deposit, the dates came back very disparate: around 6100 B.P. and 3600 B.P. The lab was unable to provide me with any recommendations as to which was the more accurate date, and, as in the dream, I have had to accept both dates. What is even more intriguing is that while the second date was very accurate, the dream had the first two digits of the first date reversed – very appropriate for the title of the dream!

It could certainly be the case that the dreams which were somewhat accurate about the radiocarbon ages were just lucky guesses, perhaps based upon my knowledge of the site and of the local chronological sequence. I will leave it to the reader to decide whether or not these dreams were truly predictive in the sense that recent anthropological theory suggests. However, these dreams were nevertheless much more specific about the ages than would be expected from the random firings of brain neurons.

In conclusion, many of the current theories about dreaming have a tendency to posit global conclusions for all dreams, not infrequently based on small samples (Hoffman 2013). This large, specialized set of dreams about the Little League Site suggests that each of the theories may apply to some dreams, but by no means to all of them. This perspective is similar to the ways in which dreams are regarded in some indigenous cultures. For example, the Iroquois classify dreams within a hierarchy of importance, as "no-account", familial, ancestral, and tribal; and their classification determines how seriously the dreamer should take them and what he/she should do about them (Moss 2005). I remain determinedly agnostic about the possibility that any one theory could ever explain all dreams.

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The author received his Ph.D. from the Department of Near Eastern Languages and Literatures at Yale University in 1974, and starting in the same year began to conduct archaeological field schools at pre-European sites in eastern Massachusetts. He joined the full-time Anthropology faculty at Bridgewater State College (now University) in 1978, and from that time until his partial retirement in 2018 he has taught numerous courses in archaeology, cultural anthropology, mythology, and culture and consciousness. He has been a member of the International Association for the Study of Dreams since 1997, and has frequently presented at that organization's annual meetings. He has maintained a searchable database of his own dreams since 1992, currently with over 15,800 entries, and has frequently drawn on it for these presentations. He is the author of three monographs: People of the Fresh Water Lake: A Prehistory of Westborough, Massachusetts (1991); The Seven Story Tower: A Mythic Journey through Time and Space (2001); and Stone Prayers: Native American Stone Constructions of the Eastern Seaboard (2019), as well as numerous articles in archaeological, anthropological, and dream studies journals. This article is excerpted from a book-length manuscript currently under preparation (Hoffman 2020).