Further Applications of Social Cognition to Göbekli Tepe

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Abstract

Göbekli Tepe is an archaeological site that has challenged much prior thought on human history with respect to our Neolithic revolution from animistic, egalitarian, hunter-gatherers to settled, socially stratified, and religious peoples. In the present paper we review the structures and possible purposes of Göbekli Tepe, summarize past considerations of the connection between psychological concepts and matters found thereat, and then introduce social identity theory as an apt theoretical perspective from which to best understand the peoples who constructed and utilized the site. Throughout we show that social-cognitive processes and concepts have merit in interpreting the advent and utility of Göbekli Tepe, suggesting then a greater use for psychology within the framework of cognitive archaeology.

Keywords
cognitive archeology – Göbekli Tepe – social cognition – social identity – social psychology
Psychology and archaeology have enjoyed a fruitful association, including in recent years well-respected collaborations that have linked the two disciplines (e.g., Coolidge & Wynn, 2018; Gamble, Gowlett, & Dunbar, 2014). Both endeavors share in the aim to understand human nature, and the particulars of this juxtaposition have been previously explored in some detail (e.g., Ingold, 2001). Recent scholarship concerning Göbekli Tepe provides another set of examples where archaeologists have made good use of psychological theories. The purpose of this contribution then is to introduce the site to psychologists as well as to suggest a role for further applications of social cognition to considerations of this important discovery. Most centrally we will focus on Tajfel and Turner’s (e.g., 1979) social identity theory (SIT).

1 About Göbekli Tepe

Göbekli Tepe is an archaeological site in southeastern Turkey, notable for its considerable size and early construction. Notable is perhaps an understatement for as Warburton (2005, p. 43) observes “the very character and chronological priority of Göbekli Tepe assures it a decisive place in human history.” The site has not yet been fully excavated, but likely features around 200 T-shaped stone pillars set within some 20 (mostly) circular enclosures. These enclosures are large stone structures, up to 30 meters in diameter, that were possibly semi-subterranean when constructed. A general pattern suggested by the enclosures that have been excavated is of several peripheral pillars, possibly connected by stone benches, appearing at intervals along the perimeter. At the center of the enclosures there is also a pair of even larger (over five meters) – and in some cases clearly anthropomorphic – free-standing pillars.

Dated to some 12,000 years ago, Göbekli Tepe then is roughly 6,000 years older (and far larger) than Stonehenge. Evidence indicates that the site was not a residential “city” but a special-purpose “temple.” As Schmidt (e.g., 2000) has noted, prevailing theory has understood temples as a product of the more agricultural, sedentary, and populated life-style arising after the Neolithic Revolution. Göbekli Tepe then challenges this sequence. Specifically, Notroff, Dietrich, Peters, Pöllath, and Köksal-Schmidt (2015) have suggested that temple building, as well as subsequent large scale temple-based feasting (and likely beer consumption), may have created the need for advancing agricultural production, encouraged more permanent sedentism, and perhaps even required a degree of social diversification not previously associated with hunter-gatherers. As Dietrich, Notroff, Walter, and Dietrich (2020) assert, Göbekli Tepe may best
be viewed as a marker of what they deem “psycho-cultural” change. Or, as we will outline here, matters of social cognition.

Beyond mere size and chronological priority, the many pillars at Göbekli Tepe (as well as smaller artifacts found on site and at several later, but presumptively affiliated locations) are decorated with spectacular imagery. The pillars themselves feature mostly animal reliefs (with some human and abstract symbols). Considerable attention and analysis of this imagery (see Benz & Bauer, 2013, 2015; Henley, 2018; Mithen, 2003; Morenz, 2014; Morenz & Schmidt, 2009; Schmidt, 2006/2012, 2011) suggests that while some of it was likely apotropaic, that it may also be the oldest known semasiographic proto-writings.

In broad strokes, a general hypothesis is that the imagery featured on the stone pillars at Göbekli Tepe, as well as that carefully reproduced in miniature, served to link a large enough community to accomplish construction of the site (Watkins, 2005, 2010, 2013). These symbols may then represent the type of iconography associated with the maintenance of social norms or even doctrinal religious practices (Benz & Bauer, 2013, 2015; Dietrich et al., 2020; Henley, 2018). Even if what was done at the site was not religious in the modern sense – for as Schmidt (2006/2012; Dietrich, Notroff & Schmidt, 2017) observes its possible use could have been as a memorial for encoding beliefs, traditions, or history; as an educational center for transmitting funereal or hunting rituals and practices; or as a place for social initiation, indoctrination, or exchange within a larger community context – still supports the idea that some of the imagery was intended to transmit a “story.”

In sum, both archaeologists (e.g., Kuijt & Goring-Morris, 2002) and evolutionary psychologists (e.g., Dunbar, 2013) have heralded the Neolithic Revolution as one of the most significant behavioral changes in history. Göbekli Tepe then has moved to center-stage in our understanding of this key social psychological transition from humans as nomadic, animistic, egalitarian, hunter-gatherers to the developers of sedentary lifestyles, “modern” religious ideations, and socially stratified civilizations.

2 Psychology and Göbekli Tepe: An Overview to Date

Archaeologists themselves have already appealed to some psychological theories as a way to understand Göbekli Tepe and its place within the broader Neolithic Revolution. For example, Watkins (2004) works from the writings of Merlin Donald to argue for the vital role of symbolic, material, communication not just in the pillar iconography and smaller finds, but in the emergence
of permanent architecture itself. Indeed, the very act of large-scale building projects likely attests to, and affirms, a set of shared ideals (see also Kidder, 2013). As Dietrich et al. (2017) observe, surely then both working on, and feasting at, Göbekli Tepe strengthened social cohesion while also reifying the “power” of those possessing the knowledge and skills required to accomplish such feats.

Subsequently, Watkins (2013) applies such notable psychological theorists as Robin Dunbar and Joseph Henrich to several other out-standing questions of Neolithization including what might lead hunter-gatherers to become monumental builders. That is, what needs arose that such a highly symbolic building project might satisfy? One prospect is that expanding group size necessitated new means for maintaining social cohesion. Benz and Bauer (2015, p. 12) note that “socialization and learning in hunter-gatherer communities is mostly based on personal experience and praxis, defined originally by Albert Bandura ... as ‘observational learning’.” Yet, as group size expanded alternative means of socialization and learning had to be manufactured.

To that end, Watkins (e.g., 2005) has specifically drawn on “Dunbar’s number” (roughly, 150) which has been shown to be an actual cognitive constraint on our capacity for significant personal relationships. For Watkins (and Deitrich et al., 2017), the structures at Göbekli Tepe and the symbols they bear (as found on smaller and portable objects as well) are potentially explained as posting social norms and expectations, and so represent a novel solution for how to maintain cohesion within groups larger than what a traditional hunter-gatherer lifestyle could accommodate.

As for these smaller objects, Morsch (2016) has argued that some of the human forms depicted likely show indicators of group identity. Again appealing to evolutionary psychology broadly, he notes that the various forces which promote group identities are also associated with enhanced internal cooperation alongside outward aggression. This combination of cohesion and combativeness would afford improved opportunities for securing resources during Neolithization. For Morsch then, Göbekli Tepe and all the related items associated thereabouts are best understood as markers of an emerging group identity. Along this same line, Clare et al. (2019, p. 97) consider Girard’s “mimetic theory” for understanding this era as one concerned with the “promotion of common identities and group cohesion” and managing an emerging social inequality.

It is also reasonable to consider that a new ideology itself precipitated the growth in group size and so the need for enhanced cohesion. This ideology may have been religious (as per Cauvin, 1994/2000), and as such represented a transition from the sort of animistic belief systems that are nearly universal
among hunters and gatherers (Peoples, Duda, & Marlowe, 2016) to a “supernatural watcher” theology (Norenzayan, 2013). Such beliefs by design or default intrinsically facilitate cooperation and social cohesion and could reasonably be seen as enabling further facets of Neolithization (larger groups, social stratification, sedentism, agriculture, etc.). On this view religion is the generative source, disseminating the new ideas would be the root purpose of Göbekli Tepe, and the social changes that followed would have been byproducts.

Hayden has explored the rising social complexity (and inequality) of these transitional and "transegalitarian" peoples in the context of feasting. As such, he (e.g., 2020) suggests a variant on this ideological possibility in which an aggrandizing individual, a small “elite” group, or a larger community sought power over other peoples and initiated a new (likely theological) belief system that could be leveraged to that end. On any account the problem of effectively spreading new ideas to a group much larger than a single “band” of hunter-gatherers remains. Like Watkins, Benz and Bauer (2013) agree that Göbekli Tepe and its rich symbology surely represents a solution to just that problem. As with Hayden, they also hypothesize that the specific purpose of the elaborate mythic imagery was to facilitate creating new social identities. That is, that the message to be shared here was one about building loyalty to a new regime or lifestyle that was more stratified and less egalitarian. Theirs’ then is a consideration of what sort of “power” is needed for creating social norms and social hierarchies. Although each of the italicized terms here are concepts they invoke and consider, none of these are linked to any actual social psychology theory per se. As we will suggest below, SIT could likely serve to provide a specific psychological framework for all of these ideas.

Returning to the smaller objects found at Göbekli Tepe and associated sites, Dietrich et al. (2017) have considered if they may have been “signs of social distinction” or were the property of priestly “religious specialists.” In either case then, these would have been symbolic markers of a unique social identity not shared by the entire community. Along these same lines they also consider that by setting the semasiographically carved pillars within enclosures that access to “knowledge and participation” was being controlled, and most likely was only available to male hunters.

As for that knowledge, Benz and Bauer (2013, 2015) are among several researchers that have noted the fierce and masculine nature of many of the animals depicted on the pillars at Göbekli Tepe (i.e., Peters & Schmidt, 2004; Schmidt, 2006/2012). They have suggested that this imagery was potentially part of a fear politic being employed to affirm a new social order. This could also mean that Göbekli Tepe was a center for providing the sort of high frequency but low arousal rituals associated with reinforcing a doctrine. Along
similar lines, Dietrich et al. (2020) have drawn on the work of the social psychologist William Swann (e.g., Swann & Buhrmester, 2015; Swann, Gómez, Dovidio, Hart, & Jetten, 2010), specifically his notion of “identity fusion.” Swann works into their consideration of how the fierce imagery at Göbekli Tepe might best accord with the two types of religious ritual – imagistic versus doctrinal – proposed by Whitehouse (e.g., 2002).

As Whitehouse asserts, such doctrinal practices surely “helped to foster the development and spread of inscribing systems” (Whitehouse & Hodder, 2010, p. 126) – which is arguably what we have in the symbology at Göbekli Tepe. Nevertheless, as Whitehouse and Lanman (2014) report, doctrinal religions are generally understood as a later mode, seen more readily in large, established and organized, as well as socially complex (at least hierarchical) societies. It is the other, imagistic, mode that is more associated with older, hunter-gatherer, cultures.

Imagistic practices involve low frequency but high arousal events. Such sensorially rich events when aligned with a significant socio-religious meaning likely result in vivid episodic memories. Additionally, imagistic rituals by design are often intense, frightening, and physically engaging (perhaps even painful or truly risky). Such a shared experience can indeed be understood within Swann’s notion of identity fusion. Therein self-identity merges with the group-identity of others who have also shared in such salient experiences. Dietrich et al. (2020), in keeping then with the possibility that Göbekli Tepe was – or perhaps first was – a site for imagistic rituals, have used Swann to show what the “payoff” in terms of group cohesion may have been. Yet ironically, for Swann’s notion of identity fusion to best make sense here again presupposes SIT, or at least something conceptually similar, as a precursory thesis.

As psychologists we support and endorse all of these applications from our field into archaeology. Indeed, these not only strike us as appropriate but each stands then as a positive example of productive interdisciplinary collaboration. As foreshadowed however, we are struck by something that seems to be missing – a basic social identity theory as per Tajfel and Turner (1979). Building off the material just reviewed above, we will make a case for how SIT may find good use as the foundation for such psychological considerations of Göbekli Tepe. To best do this we should begin by considering some of the building blocks that SIT itself assumes about cognition and behavior.

3 Social Cognition and Evolutionary Psychology

It was William James (1890) who first asserted that the fundamental act of cognition was discrimination, meaning that to see the world intelligibly
requires that we sort it into categories. As readily as early hunter-gatherers may have parsed landscapes as inviting or dangerous; animals as predator or prey; plants as edible or toxic, they surely sorted one another (young-old; male-female; provider-loafer; enemy-ally, etc.). Even research with non-human primates shows that they automatically categorize into contextual ingroups and outgroups (Pokorny & de Waal, 2009) and show ingroup bias (Campbell & de Waal, 2011).

Across a great diversity of animal species groups afford advantages. These advantages obtain in such fundamental matters as resource and mate acquisition, as well as safety and defense. Humans then are not exceptional as “social animals,” but our advanced cognitive skills have assuredly impacted the ways we group. As Kurzban, Tooby, and Cosmides (2001) suggest, humans have long had the ability (and inherent tendency) to categorize individuals into groups, as well as to track changes in alliances/coalitions – that is, we have “coalitional instincts.” Even children as young as three months old show preferences for ingroup members (Bar-Haim, Ziv, Lamy, & Hodes, 2006). By age five children show evidence of essentialist beliefs regarding groups (Diesendruck & HaLevi, 2006; Gelman, 2003) and by age six begin to show evidence of outgroup derogation (Buttelmann & Böhm, 2014).

Among both humans and other hominids evolutionary psychologists (e.g., Mesoudi & Jensen, 2012; Tomasello, Melis, Tennie, Wyman, & Herrmann, 2012; Wrangham & Glowacki, 2012) are quick to note the advantages of group cooperation such as the ability to hunt larger game, as well as resource and knowledge sharing. Additionally, there are also advantages to intergroup avoidance (Kurzban & Leary, 2001). Even intergroup conflict can potentially be beneficial in matters of access – to food, potential mates, and safety – most especially during times of resource scarcity. Both our propensity to form groups and to categorize the world then are ideal candidates to be what evolutionary theorists call “evolved neural programs” and coded into us long before we became homo sapiens. For a more in-depth consideration of our coalitional instincts we recommend Tooby (2018), and for SIT (per se) within the context of evolutionary psychology see also Brewer and Caporael (2006), but for present purposes it suffices to say that we can be certain the socio-cognitive prerequisites for SIT were part of the psychology of the peoples who built and utilized Göbekli Tepe.

4 Social Identity Theory

Social identity theory (Tajfel & Turner, 1979) begins with the simple notion that people at times saliently consider themselves as individuals, but at other times
as members of a group. Groups could be based on any number of variables from sex or age to occupation or accomplishments. Across a series of studies Tajfel, Turner, and associates demonstrated that even when groups were formed around minimally significant (even random) matters, participants still favored their ad hoc ingroup. Just as mere categorization into groups can influence adults’ perceptions of ingroups and outgroups (e.g., viewing the ingroup as superior), the same phenomenon can be observed among children (Buttelmann & Böhm, 2014).

Within any community the status of various groups is likely different, and could be viewed as then affirming an implicit (or explicit) social hierarchy. Although such hierarchies could themselves potentially be fixed or fluid, people inherently make intergroup comparisons to determine their own standing within the community. For example, as a living, adult, male, proven auroch hunter, perhaps I can participate in some funereal ritual at Göbekli Tepe, making me within the moment “above” the children, women, and less proven hunters who are not part of the participating group.

As Tooby (e.g., 2018) suggests in the context of coalitional instincts, the basic need to belong (for the evolutionarily advantageous reasons previously outlined) is a universal human trait (e.g., Brown, 1991). But as SIT (and Tooby) posit, people not only innately want to belong to groups, but they inherently want to belong to positive and distinctive groups. To continue the example, living, adult, male, may all be positive, but likely do not make me very distinctive, whereas proven auroch hunter or funereal ritual participant may indeed distinguish me as special and important. Such comparative cognitions and behaviors are also likely grounded in our genes, but for those resistant to an evolutionary psychology explanation on this point there are viable alternatives. Becker (1962) would note the self-esteem gained from such affiliations, whereas Hull or Skinner would hold more simply still that being associated with positive and distinctive groups could provide tangible drive reductions and rewards through food, safety, sex, and goods.

For SIT, once an affiliation is made salient members depersonalize and self-stereotype in line with the relevant norms that are prototypical of the ingroup’s identity (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). That is “when in Rome, do as the Romans do,” or stated more formally once my being a funereal ritual participant is made figural to me I now sublimate my own personality and interests so as to better conform to the normative cognitions and behaviors of this salient group. That is, if participants are stereotypically seen as zealous and loyal followers of “Og,” I will take on that social identity and become a zealous and loyal follower of Og. In short, group members
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Consensually share a set of beliefs about the norms of the group and act in accordance with those norms whenever that group identity is made salient.

Juxtaposed with the basic model are additional ramifications that may also be useful in understanding Göbekli Tepe. For example, as a consequence of SIT there is a clear ingroup bias and as such a real potential for overt discriminatory behavior in intergroup contexts (see Balliet, Wu, & De Dreu, 2014 for a recent meta-analysis). This then could form the foundation for the sort of cohesion—coercion dynamic that many (e.g., Belfer-Cohen & Goring-Morris, 2005; Benz & Bauer, 2013; Dietrich et al., 2017; Kuijt, 2011; Morsch, 2016; Norenzayan, 2013; Schmidt, 2005) believe must have been associated with the site.

That said, conformity certainly doesn't require coercion when one wants to be a member of the group. Henley (2018) has considered the power of storytelling as a medium for broadcasting and popularizing an ideology such that individuals want to share in a group’s positive and distinctive social identity. This view supports Watkins (e.g., 2015) belief that the very function of the iconography at Göbekli Tepe and related sites, as well as its manifestations on smaller objects (bowls, shaft-straighteners, even on “small stone tablets which apparently do not have any other function than bearing these signs” Notroff et al., 2015, p. 40), was to spread and affirm an ideology.

It should be noted that since its conception SIT has inspired further developments related to, or expanding upon, the general processes just presented here. These would include such matters as the black sheep effect, optimal distinctiveness theory, intergroup emotion theory, identity complexity, identity fusion (as per Swann, cited above), and perhaps most importantly for present purposes, implications about the nature of leadership (see Hogg, Abrams, & Brewer, 2017, and Hogg & Gaffney, 2018 for an overview of these extensions of SIT).

Likewise, there are “related” theories – such as Terror Management Theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986, 1990) which posits that humans, uniquely aware of their future death, face an existential anxiety that is best buffered through one’s cultural worldview. Sharing in a group-validated ideology then presumptively provides meaning, structure, and self-esteem from the prospect that one is a good person who follows the shared cultural norms. Although the utility of TMT for actual evolutionary psychology has been questioned (e.g., Navarrete & Fessler, 2005), for present purposes it is amply applicable (Burke, Martens, & Faucher, 2010).

Research participants whose mortality is made salient tend to show greater identification with their ingroup and greater ingroup bias (Landau, Solomon, Pyszczynski, & Greenberg, 2007). In turn, a close connection with a relevant
group serves to bolster one’s worldview, enhances self-esteem, and supports beliefs about immortality after one’s own death. TMT then seems an especially promising ally of SIT in this context as Schmidt and others (see Gresky, Haelm, & Clare, 2017) have argued that death would surely have played centrally into whatever ideologies and practices were associated with Göbekli Tepe.

5 Summary: Göbekli Tepe and Psychology

Schmidt (2006/2012) wryly quips that it makes no sense for hunter-gatherers to have built Göbekli Tepe and then not use it for something grand or special. Perhaps it was a temple to supernatural watchers, perhaps it was otherwise cultic, or perhaps it was something that blurs our modern notions of sacred and secular – so not a religious site per se, but a socially significant one none the less. Perhaps then it was a place for affirming beliefs, memorializing traditions, or making history (Clare, Dietrich, Notroff, & Sönmez, 2018; Hodder & Pels, 2010). Schmidt even also considers that the enclosures could have functioned like “club houses” where the very point may have been to build social identity. Although psychology may well have a role in these debates, our intention here was more primarily just to note that all such possibilities would have centrally involved groups and identities as per SIT.

Beyond SIT and TMT there are other obvious, and in some cases intersecting, elements of social psychology that may also be well applied to the archaeology of the Neolithic. To set up one final example, Dietrich et al. (2017, p. 121) have rightly associated labor specialization with social hierarchies, as well as the fact that to get the sort of artistry seen at Göbekli Tepe would have required experienced craftsmen, observing that the “uniformity of types, the coherent style, the exactness of realization all speak [to a] canon of motifs and techniques ... [and] ... hint at highly specialized craft(s).” The implication then is that many of the matters that Göbekli Tepe is heralded for highlighting – a new era of social hierarchies, occupational specialization, perhaps even a religious ideology and semasiographic proto-writings, logically must have come before the site itself.

Maslow’s (1943) famed hierarchy of needs has, despite minor criticisms on specific points, remained an established theory of motivation for 75 years (see also Mathers & McReynolds, 2011). In this case, his ideas may also be of value in better understanding the transitional hunter-gatherer peoples who would eventually come to build Göbekli Tepe. Evidence would suggest that the physiological (food) and safety (shelter) needs of this socially transitional
community of hunter-gatherers turned builders must have already been met. Increasingly efficient proto-agricultural behaviors along with more sedentary settlement practices and structures could certainly account for these basics being well satisfied (e.g., Kuijt & Goring-Morris, 2002; Watkin, 2004).

With food and security established, belongingness and esteem needs become more manifest. As such, Maslow would assert that more differentiated groups and distinctive activities should obtain, and notes those matters are often linked to gaining expertise in socially valued vocations or pastimes (say, artistic stone carving). From Maslow then we can posit the theory that when more primary needs are met, individuals will inherently be motivated to look for ways to express themselves by developing expertise in domains already valued by the community (e.g., good mother, good hunter, and importantly here – good artist and good mason). Totally analogous would be the potential of a priestly vocational class – or as Dietrich et al. (p. 124) note “specialists in memory, [and] ritual.” That is, specialists for creating and propagating the significance of an ideology and its symbology. In time, such individuals may have overseen the creation of, then tending to, the symbols and ideology associated with Göbekli Tepe. On this theory, these too would have become expert because they devoted their time to a task that the community already socially valued.

With all that said, we are respectfully aware that Hodder and Meskell (2011, p. 243) have admonished caution and raised concerns “about the relevance of off-the-shelf theoretical explanations” such as those suggested from psychology. Similarly, Boyd (2005) has cautioned that input from human behavioral studies are often mere assertions instead of empirically grounded demonstrations. Nevertheless, we believe psychology is a mature enough science to have something substantive to offer. And, even if psychology is only positioned to offer products that are “off-the-shelf,” it would at least be from a new shelf, and as such one that may stimulate fresh lines of inquiry. Indeed, there are clear, positive, examples of this such as Boyer and Baumard’s (2016) use of cognitive, evolutionary, and social psychology ideas to consider the origin and diversity of religious systems, that run parallel to our objectives here.

In close, social psychologists understand that groups mold attitudes, affect behaviors, shape beliefs, establish norms, create values, and constitute the fabric of our social and personal identity. There is always an omnipresent process whereby we are continuously being socialized into our roles within the many groups that we are a part of. A process that Tajfel and Turner have described in ways that have been testable in the laboratory, and that may also prove useful as a tool to further theory building in the context of Göbekli Tepe.
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