

Stone Age Sociology

Introduction

Noteworthy are the intense mutual social contacts among hunter gatherers. Here we describe egalitarianism as the basis of cooperation and deliberation. Cooperation, deliberation and sharing underpin that egalitarianism. And since certainly for the first 600,000 years, cooperation was crucial for the survival of the species, this was also a strong incentive to keep going down the same path. Egalitarianism is the glue that holds the community together.

Storytelling had a central role in cultural transmission. In case of conflict, 'counterdominance' could be invoked if one tribal member wanted to dominate the others. This practice restores stability to the group. But the role of what Boehm called 'inverse dominance hierarchy' has been grossly exaggerated in the literature. With F. Xavier Ruiz Collantes, we share the analysis that the political system of the hunter-gatherers was simply a direct democracy.

Cooperation among hunter-gatherers

The median values in terms of populations proposed by Marlowe were obtained after a comparative analysis of 478 extant ethno-linguistic groups. Groups using more than 10% domesticated food were not included in the sample. The figures are based on anthropological research on real extant hunter-gatherer groups. Marlowe gives an average size of 30 for the 'fused band'. An ethno-linguistic tribe has a median size of 875 in cold areas and 565 in warm areas according to him¹.

A study by Coren L. Apicella, Frank W. Marlowe, James H. Fowler & Nicholas A. Christakis among the Hadza shows that family ties do not carry over during cooperation among hunter-gatherers². They surveyed 205 adults in 17 Hadza camps. Cooperation was elicited by examining subjects' contributions to a public good using sticks of honey. Both women and men donated slightly more than half of their endowment. They collected network data at both the population level and the camp level. They discerned same-sex network ties across the entire Hadza population by asking each individual: "With whom would you like to live after this camp ends?" They call this the 'campmate network'. On average, women chose 6.0 (61.9 s.d.) campmates and men chose 7.1 (62.1 s.d.) campmates. To facilitate this, we used posters containing facial photographs of a census of 517 adult Hadza).

The result is high assortativity in cooperation. To clarify briefly what is meant by assortativity. The number of possible interconnections C between n individuals is $C = n*(n-1)$. If the total number of connections is really equal to C , then the network is maximally assortative. The hunter-gatherers were close to that maximum. The network completely lacked hierarchical relationships and the interconnections were evenly distributed.

1 Marlowe, W. Frank, 2005, Hunter-Gatherers and Human Evolution, *Evolutionary Anthropology* 14:54 –67 (2005), <https://doi.org/10.1002/evan.20046>,

https://www.academia.edu/12030949/Hunter_gatherers_and_human_evolution>.

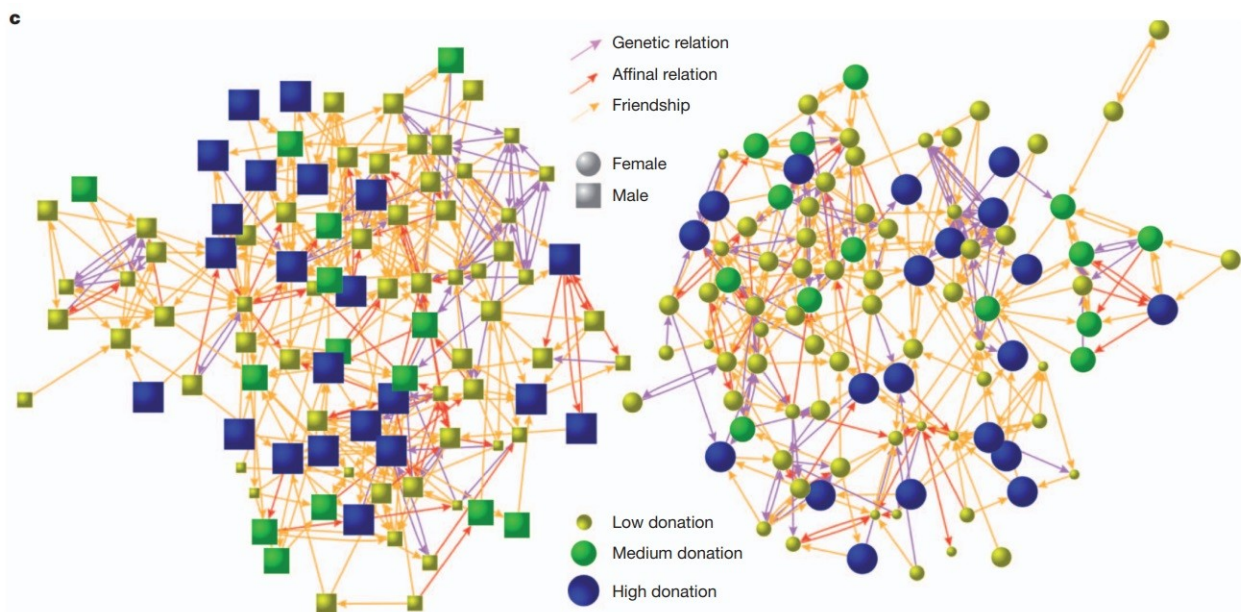
2 Apicella, Coren L., Frank W. Marlowe, James H. Fowler, & Nicholas A. Christakis. ,2012, Social networks and cooperation in hunter-gatherers, *Nature*, Vol. 481, 26 January 2012, doi:10.1038/nature10736, <https://greatergood.berkeley.edu/images/uploads/Apicella-CooperationHunterGatherers.pdf>>.

The authors state:

"Although cooperation is widespread in human societies, modern huntergatherers possibly exemplify this feature best—extensively sharing food, labour and childcare. It is likely that the high levels of cooperation observed in modern hunter-gatherers were also present in early humans."³

"But hunter-gatherers also prefer connections with unrelated partners," they argue, "who are physically fit, suggesting that this tendency could be both common and of ancient origin. For hunters, acquiring and processing food is labour- and time-intensive and requires strength and endurance, as well as skill and knowledge. Thus, engaging with physically fit individuals probably translates into more resources."

Hadza networks also show degree-assortativity. People with a higher 'in-degree' mention more social contacts, and people with a higher 'out-degree' are mentioned more often, even in models with controls (including a control for reciprocity). In other words, individuals who nominate more friends are popular even among those who did not nominate them themselves. Another property that Hadza networks share with moderated human networks is that they have higher transitivity than expected in random networks.



Afbeelding 1: Graphs of the camp mate networks show that cooperators tend to be connected to cooperators and cluster together. Node colour and size indicates donation, shape indicates sex. Arrows point from an ego (the naming person) to an alter (the named person). Arrow colours indicate whether the ego and alter are related genetically, affinally (by marriage) or not at all (friendship).

The authors conclude:

"This suggests that [their] social networks may have evolved together with the widespread cooperation in humans that we observe today."⁴

Digital social networks tend to be dissortative or have low to very low assortativity. Bernardo Huberman, Daniel M. Romero & Fang Wu examined social interactions on Twitter and found very low assortativity. Although the social network formed by the stated followers and followers appears to be very dense, the more influential network of friends actually suggests that the social network is thin⁵. You can see this in Figure 2 and 3.

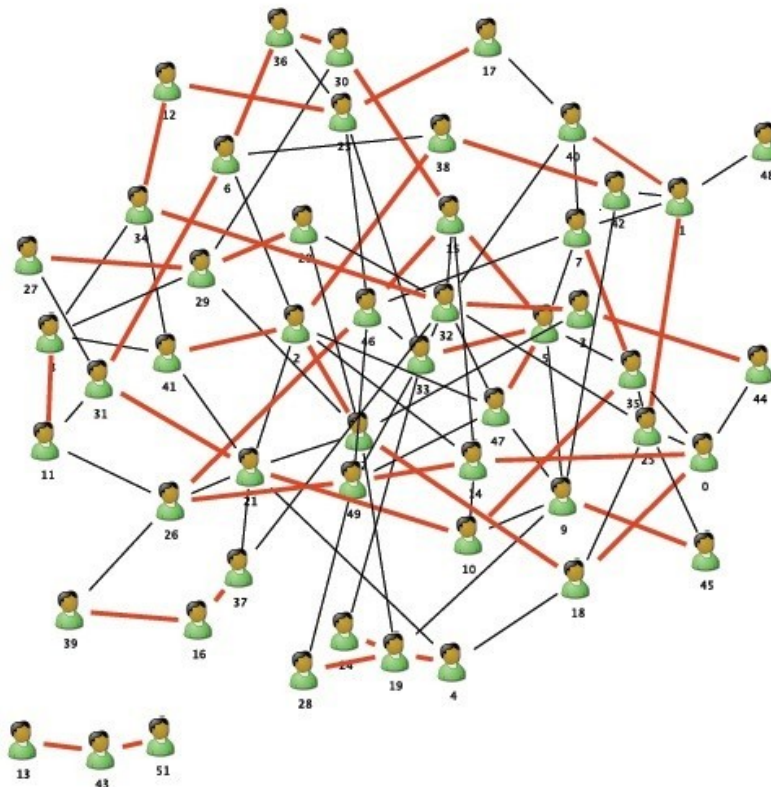


Figure 2: (a) All links are indicated followers and the red links are real friends.

4 Apicella, Coren et al., 2012.

5 Huberman, Bernardo, Daniel M. Romero & Fang Wu, 2008, Social networks that matter: Twitter under the microscope, arXiv:0812.1045v1 [cs. CY], 4 Dec 2008.

<https://www.researchgate.net/publication/23573983_Social_Networks_that_Matter_Twitter_Under_the_Microscope>.

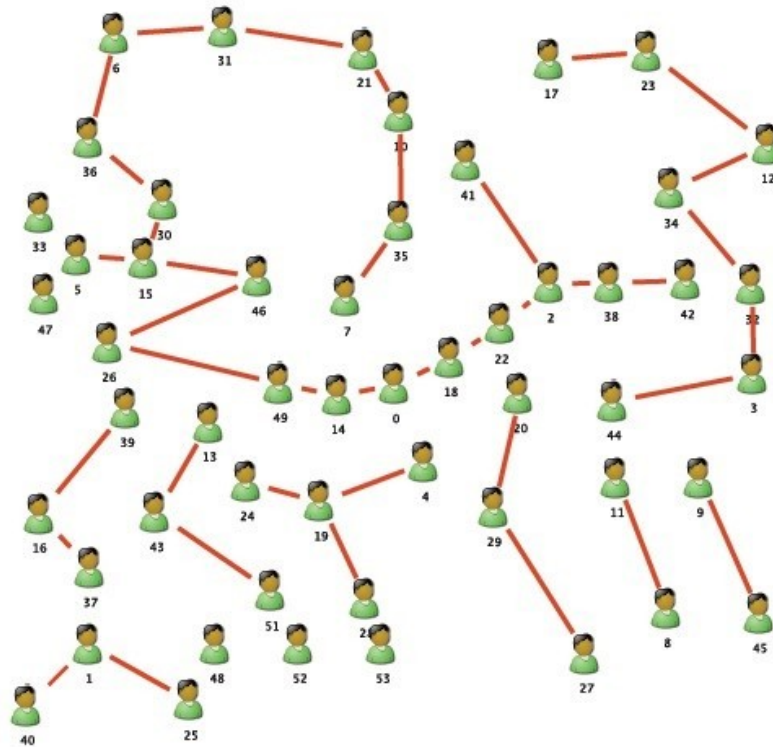


Figure 3: (b) After removing the black links and reorganising, the network looks simpler than before. This is the hidden network that matters most.

Egalitarianism, sharing information and food

Based on Woodburn⁶ and on Whiten and Erdal⁷ we define the characteristics of egalitarianism as follows:

"The social characteristics that lead to classification as egalitarian include: relatively equal social representation among different gender and age groups; the absence of hierarchical relations and authoritative leaders; the absence of accumulation of wealth; the sharing of food and material goods based on demand; the absence of particularistic social ties and dyadic relations of indebtedness; mobility; flexibility in life arrangements; and avoidance as the preferred way to resolve conflicts. Equality is achieved through direct, individual access to resources; through mechanisms that allow goods to circulate freely."

Whiten and Erdal explain the **genesis** of egalitarianism as the formation of a socio-cognitive niche that contained multiple positive feedbacks between five elements: (1) cooperation, (2) egalitarianism, (3) theory of mind, (4) language and (5) cultural transmission¹.

6 Woodburn, James, 1982, Egalitarian Societies, Man 17: 431–51, <<https://files.libcom.org/files/EGALITARIAN%20SOCETIES%20-%20James%20Woodburn.pdf>>.

7 Whiten, Andrew, and David Erdal. 2012. "The Human Socio-cognitive Niche and Its Evolutionary Origins." Philosophical Transactions of the Royal Society B 367: 2119–29, <https://www.researchgate.net/publication/228067277_The_Human_Socio-Cognitive_Niche_and_Its_Evolutionary_Origins>.

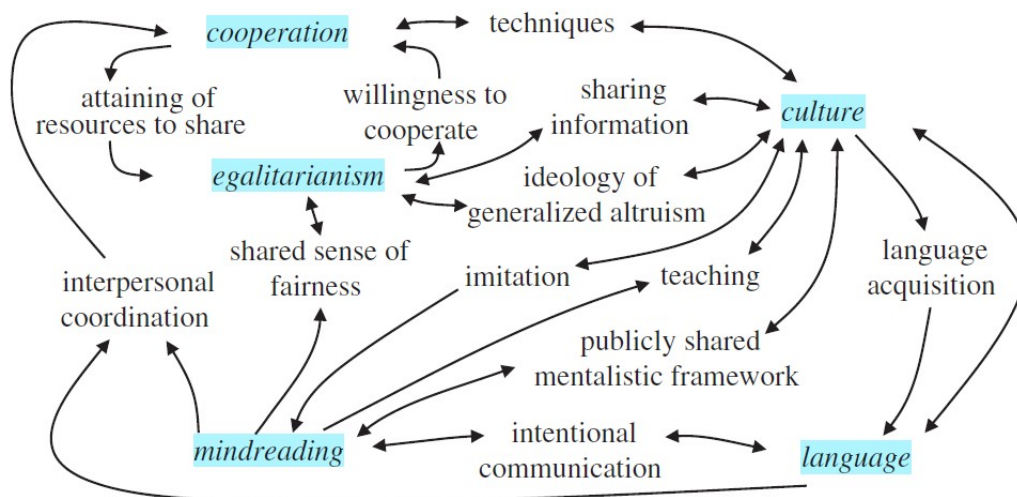


Figure 4: Main classes of social cognition in groups of hunter-gatherers and derived reinforcing relationships between them, Whiten and Erdal.

In their words:

“Here we present evidence from a diversity of sources supporting the hypothesis that a fuller answer lies in the evolution of a new socio-cognitive niche, the principal components of which include forms of cooperation, egalitarianism, mindreading (also known as ‘theory of mind’), language and cultural transmission, that go far beyond the most comparable phenomena in other primates. This cognitive and behavioural complex allows a human hunter-gatherer band to function as a unique and highly competitive predatory organism. Each of these core components of the socio-cognitive niche is distinctive to humans, but primate research has increasingly identified related capacities that permit inferences about significant ancestral cognitive foundations to the five pillars of the human social cognitive niche listed earlier.”⁸

Cooperation, deliberation and egalitarianism

Composing the working groups therein is a positive action, conflict avoidance as a basis for egalitarianism, as proposed by some authors presupposes a passive undergoing. Conflict avoidance seems to be an explanation based on the unproven proposition that egalitarianism is an imposed attitude when it was and is equally a voluntary choice.

In *The Cambridge Encyclopedia of Hunters and Gatherers*, Tim Gold reviews the debate that erupted around egalitarianism last century.

“The distinctiveness of hunter-gatherer sociality lies in its subversion of the very foundations upon which the concept of society, taken in any of its modern senses, has been built. Hunter-gatherers show us how it is possible to live socially, (that is, to conduct one’s life within an unfolding matrix of relationships with others, human and non-human) without having to “live in societies” at all.”⁹

⁸ Whiten, Andrew, and David Erdal. 2012.

⁹ Ingold, Tim, 1999, On the social relations of the hunter-gatherer band, in *The Cambridge Encyclopedia of Hunters and Gatherers*, Richard B. Lee & Richard Faly eds.

The observations of anthropologists who repeatedly confirmed equality within hunter-gatherer groups clashed with mainstream ideological views of society. Tim Gold defines egalitarianism based on the daily activity of hunter-gatherers. Gold defines the hunter-gatherer egalitarianism as to as a sphere where personal autonomy is the very opposite of contemporary individualism:

“First, the hunter-gatherer’s claim to personal autonomy is the very opposite of the individualism implicated in the Western discourse on civil society. While the latter posits the individual as a self-contained, rational agent, constituted independently and in advance of his or her entry into the arena of social interaction, the autonomy of the hunter-gatherer is relational, a person’s capacity to act on his/her own initiative emerges through a history of continuing involvement with others in contexts of joint, practical activity.”

“Second, in a world where sociability is not confined by boundaries of exclusion, people do not define themselves as “us” rather than “them,” or as members of this group rather than that, nor do they have a word to describe themselves as a collectivity apart from the generic word for persons.”¹⁰



Figure 5: Hadza saring informtion and tubbers

Gender equality

The function of gender egalitarianism was not understood by mainly male anthropologists at first. Margaret Mead¹¹, but especially Karen Endicott changed this¹². Together with her husband Kirk, she observed the Batek a people in Indonesia¹³ for 30 years. The important role of gender egalitarianism was confirmed by Mark Dyble, Gul Deniz Salali, Nikhil Chaudhary and Abigail Page. They present an agent-based model that suggests that even if all individuals in a community strive to live with as many kin as possible, kinship within a camp decreases when men and women have equal influence in selecting camp members. Their model closely approximates observed patterns of cohabitation among Agta and Mbendjele BaYaka hunter-gatherers. Their results suggest that pair-bonding and increased sex equality in human evolutionary history may have had a transformative effect on human social organisation¹⁴.

The composition of groups of kin and non-kinship among hunter-gatherers is an observation that recurs again and again in anthropology. It is fundamentally different from the hierarchical clans that emerged later in agrarian society, where family ties were a decisive factor that allowed control to be exercised along patriarchal or matriarchal lines. Equality thus began and begins with the composition of fluid activity groups, a quasi-daily activity that ensured that food came to the table.

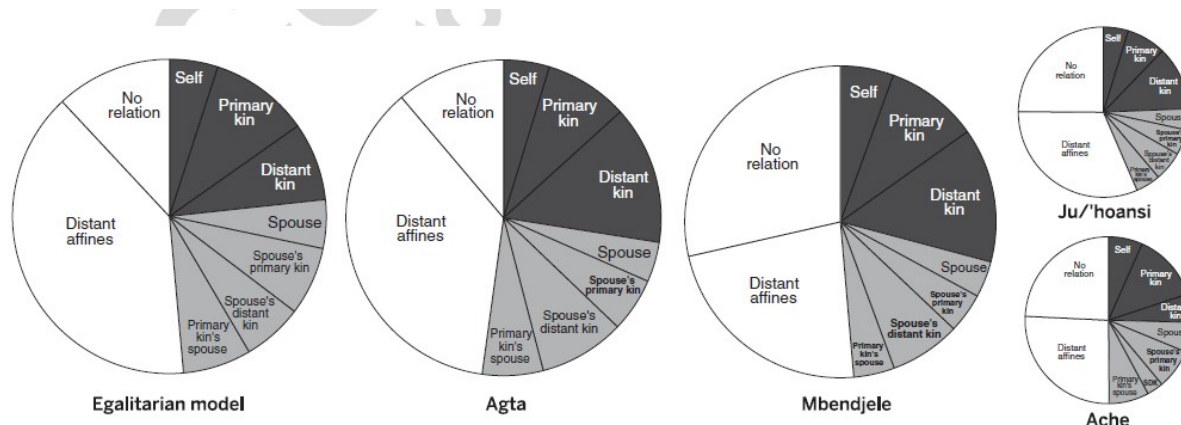


Figure 6: Cohabitation patterns in modelled and observed egalitarian populations. The graph shows the proportion of all dyads in nine kinship categories for the egalitarian model (left), Agta (middle left), Mbendjele (middle right), Ache (bottom right) and Ju/'hoansi (top right). Data of Ache and Ju/'hoansi taken from Hill et al. (2011).

- 11 Mead, M., 1935, Sex and temperament in three primitive societies. New York: William Morrow and Company, <https://personalwebs.coloradocollege.edu/~mduncombe/WS_110/Mead_Sex_and_Temperament.pdf>
- 12 Endicott, Karen, 1999, Gender relations in hunter-gatherer societies, in The Cambridge Encyclopedia of Hunters and Gatherers, Richard B. Lee & Richard Faly eds, <<https://www.bibsonomy.org/bibtex/27c0def9a7df648b3d8d109535cadf87c/joe312213>>.
- 13 Endicott, Kirk & Karen Endicott, 2008, The Headman was a Woman, The Gender Egalitarian Batek of Malaysia, Waveland Press inc., ISBN 978-1-57766-526-7.
- 14 Dyble, M, Salali, GD, Chaudhary, N, Page, A, Smith, D, Thompson, J, Vinicius, L, Mace, R & Migliano, AB, (2015). 'Sex equality can explain the unique social structure of hunter-gatherer bands' Science, vol. 348, no. 6236, pp. 796-798, <<https://www.science.org/doi/10.1126/science.aaa5139>>. <<https://www.science.org/doi/10.1126/science.aaa5139>>

The difference between tribe and clan

As to the Wikipedia a [clan](#) is a group of people united by actual or perceived kinship[1] and descent. Even if lineage details are unknown, a clan may claim descent from a founding member or apical ancestor who serves as a symbol of the clan's unity. While a [tribe](#) is used in many different contexts to refer to a category of human social group. The predominant worldwide usage of the term in English is in the discipline of anthropology.

We must clearly distinguish between the clans that emerged when nomadic hunter-gatherer tribes were overrun by agriculturists from Anatolia. The social structure of the agrarian peoples was largely patriarchal. They were combative closed communities with a real clan structure. During the whole first millennium the Catholic Church who wanted to spread its influence and power all over Europe was confronted with the resistance of local clans outside Rome.

In an attempt to counter the influence of the clans and the clan leaders the Catholic Church prescribed new rules for marriage. It banned marriages between relatives in the second line. Cousins were taboo as suitors. That was incest. And at times that went as far as the 6th line. At the same time, the Catholic Church introduced celibacy to protect church property from fragmentation.

So the result was that people became more individualistic - couples started living separately from their parents. became less conformist and more positively social towards unrelated people than in clan communities¹⁵. Whether the Church intended that effect is questionable. That she wanted to break up the clans, certainly.

And that this policy resulted in the Church being able to collect many a bequest when a family line died and was not absorbed by the clan, as used to be the norm, also suited them well. Ultimately, however, the Catholic Church fared badly when Protestantism reared its head in the 16th century fuelled by individualism and non-conformism. The Orthodox Church never experienced this kind of rebellion against the Church. So it turned out completely differently in Catholic Europe than intended and eventually led to the Age of Enlightenment from 1670 onwards.

But these clans still exist. They are the European royal houses that thought they ruled the world in the early 20th century. The scions of those noble families could not agree on how to redistribute the collapsing Ottoman Empire and so they sent their subjects into the First World War. Rivalry between two rival blocs the German Empire, Austria-Hungary and the Ottoman Empire on the one hand and the Russian Empire, France and the British Empire on the other¹⁶. Fortunately, their power has since shrunk considerably, but now different other blocs contest the world domination.

Cultural transmission

Co-operation is in fact maintained by an ongoing cultural evolutionary dynamic in which social learning generates homogeneity within camps, with different camps converging on different norms. If camps with more cooperative norms persist longer, as has been shown in some hunter-gatherer populations, then this learning dynamic can sustain significant levels of cooperation within the

15 Schulz, Jonathan F. et al., 2019, The Church, intensive kinship, and global psychological variation. *Science* 366, eaau5141(2019). DOI:10.1126/science.aau5141, <<https://www.science.org/doi/10.1126/science.aau5141>>.

16 Pieter M. Judson, Austria-Hungary, *International Encyclopedia of the First World War*, <<https://encyclopedia.1914-1918-online.net/article/austria-hungary/>>.

population as a whole. Education also plays an important role here. **Cultural transmission** to the next generation is ensured among hunter-gatherers through [alloparenting](#) and storytelling.

Smith, D., Schlaepfer, P., Major, K. et al. investigated the influence of storytelling on the cooperative behaviour of hunter-gatherers and the individual-level benefits of being a skilled storyteller. Storytelling is a universal human trait. From gathering around the campfire and telling stories about ancestors to watching the latest television box set, people are inveterate producers and consumers of stories. Despite its ubiquity, little attention has been paid to understanding the function and evolution of storytelling.

Stories told by the Agta, a Filipino hunter-gatherer population, convey messages relevant to coordinating behaviour in a foraging ecology, such as cooperation, gender equality and egalitarianism. These themes also appear in narratives of other foraging societies. We also show that the presence of good storytellers is associated with more cooperation. In return, skilled storytellers are favoured social partners and have greater reproductive success. This provides a path along which behaviours beneficial to the group, such as storytelling, can evolve through selection at the individual level. They conclude that one of the adaptive functions of storytelling in hunter-gatherers may be organising cooperation¹⁷.

For summaries of some of the stories they noted, see the authors' [table](#). In these stories, the ending reflects a reconciliation of individual interests and differences, while also illustrating various mechanisms of social norm enforcement, such as emphasising the benefits of cooperation over competition, examples of punishment for breaking norms and reverse dominance hierarchies to prevent individual power accumulation. This story told about sharing food was pretty cruel, but old fairy tails did not spare cruelty either. They are hyperboles, not to understand literally:

“The ancestors ate [thunder spirit] Bilika’s food [...] Bilika was very angry. He used to smell their mouths to see if they had eaten his food. When he found a man or woman who had done so he would cut his throat. The ancestors were very angry with Bilika, because he killed the men and women when they ate his foods. They all came together and killed Bilika and his wife Mite.”¹⁸

The kind of knowledge in question is "meta knowledge" - information about the knowledge of others. In fact, this is a requirement for any society to function. For example, it is not enough for people to know that they should drive on a certain side of the road, they must also know that others possess that same knowledge. Stories can therefore ensure that all members of the group know the "rules of the game" in a given society and consequently abide by them.

In other words, it is not enough to know how to act in a given situation; individuals need to know that others also know how to act. While language is undoubtedly essential as a communication medium for coordination, we suggest here that stories in particular have played an essential role in the evolution of human cooperation by spreading social and cooperative norms to coordinate group behaviour.

17 Smith, D., Schlaepfer, P., Major, K. et al. Cooperation and the evolution of hunter-gatherer storytelling. *Nat Commun* 8, 1853 (2017). <https://doi.org/10.1038/s41467-017-02036-8>, <<https://www.sciencedirect.com/science/article/pii/S0960982218309941>>.

18 Smith, D., Schlaepfer, P., Major, K., Dyble, M., Page, A. E., Thompson, J., Chaudhary, N., Salali, G. D., Mace, R., Astete, L., Ngales, M., Vinicius, L., & Migliano, A. B. (2017). Cooperation and the evolution of hunter-gatherer storytelling. *Nature Communications*, 8, Article 1853. <https://doi.org/10.1038/s41467-017-02036-8>, <https://research-information.bris.ac.uk/ws/portalfiles/portal/138456753/41467_2017_2036_MOESM1_ESM.pdf>.

The function of counterdominance

Counterdominance or 'inverse dominance hierarchy' is the hypothesis Christopher Boehm investigated as a mechanism to perpetuate egalitarianism. He examined all small societies that could be called egalitarian, especially hunter-gatherers, but also some pastoral peoples and small sedentary farming communities. Remarkably, out of the 200 ethnographies he began examining, only 24% qualified for further investigation because the other reports did not describe practices that clearly aimed to inhibit leadership with the aim of preserving egalitarianism.

Boehm also notes that leaders were vulnerable to public opinion in the group, thus limiting autocratic behaviour. Examples he cites include the Tikopia people, Cayapo and Canela people, the Navajo and the Hottentots. He divides the practices to counter domination by a leader that were clearly described into three categories: (1) 'criticism and ridicule' (2) open disobedience and (3) extreme sanctions.

The latter mean deposition of the leader to even elimination. It would occur, for example, among the Hadza. The Australian Aborigines would traditionally eliminate aggressive tribesmen who tried to dominate them. There is also an account of the Iliaura getting rid of a man who was "very quarrelsome and strong in magic". The !Kung would also eliminate incorrigible offenders¹⁹.

There are still two problems with the 24%. (1) Do they all meet James Woodburn's definition of egalitarian societies which he "described as "economies based on immediate rather than delayed return "²⁰, as our prehistoric ancestors definitely were "immediate return" before the Neolithic era? And (2) do they meet the general characteristics listed by Richard B. Lee of "Historically Nomadic Foragers", (HNF)²¹? One of the general characteristics is "conflict management":

“Fighting is uncommon (by cross-cultural standards), but it certainly does occur and intensifies in areas of colonial pressure (Ferguson & Whitehead 1992). However, with a few exceptions (for example, Ach´e and some Australian groups), nomadic foragers rarely glorify the warrior or confer any special status. On the contrary, the peacemakers are regarded as specially valued individuals. HNFs practice modes of conflict resolution, including song duels and other forms of ritualized combat, and especially group fission as a means of separating parties in conflict. These practices contrast sharply with those of some of the non-HNF groups such as the Indians of the Plains, California, and the Northwest Coast, for whom, as we have seen, raiding and warfare became historically important cultural values (Maschner 1997, Nichols 2013).”²²

There is good reason to situate 'counterdominance' not as a continuous, daily practice over time, but as a discontinuous action when it was needed as last resort. As Tim Gold defined egalitarianism, "hunter-gatherer autonomy is relational: a person's ability to act on his or her own initiative arises through a history of continuous engagement with others in contexts of shared, practical activity."

19 Boehm, C., 1993, Egalitarian behavior and reverse dominance hierarchy. *Curr. Anthropol.* 34, 227–240. <https://takku.net/mediagallery/mediaobjects/orig/3/3_christopher-boehm---egalitarian-behavior-and-reverse-dominance-hierarchy-pdf.pdf>.

20 Woodburn, James. "Egalitarian Societies." *Man*, vol. 17, no. 3, 1982, pp. 431–51. JSTOR, <https://doi.org/10.2307/2801707>. Accessed 19 Feb. 2025. <<https://files.libcom.org/files/EGALITARIAN%20SOCETIES%20-%20James%20Woodburn.pdf>>

21 Lee, Richard B., 2019, Hunter-Gatherers and Human Evolution: New light on old debates, libcom.org, February 10, 2019, <<https://libcom.org/article/hunter-gatherers-and-human-evolution-new-light-old-debates-richard-b-lee>>. (CORE FEATURES OF HNFs AND THEIR SIGNIFICANCE FOR EVOLUTIONARY RECONSTRUCTION)

22 Lee, Richard B., 2019.

Continuously attacking every misunderstanding, every disagreement, every divergent position of your interlocutor – a situation that we see often on X the former Twitter, leads to Ayn Rand's political particularism. In philosophy, this is called solipsism. And that makes any cooperation impossible. The daily common intentionality of the group's activities determines the path to be followed in consultation and after deliberation. We share the analysis F. Xavier Ruiz Collantes, who sees 'inverse dominance hierarchy as a form of direct democracy'²³.

We can conclude from this that the continuity of equality among hunter-gatherers was primarily ensured through deliberation and storytelling, while discontinuous in case of unresolvable conflict was responded with criticism and ridicule, disobedience, exclusion and, in extreme cases, elimination of the dominant leader.

Remarkably, this system is just the opposite of what goes on in our representative democracy. There, inequality is continuous and democratic control is discontinuous. Every 4-5-6 years, everyone is briefly taken for granted while electing the political leaders of the country, region or municipality. The question can be asked whether in this total reversal of the original democracy does not also lie the weakness of representative democracy. Not only is it regularly plagued by wars, but autocratic leaders have since found a way to establish quasi totalitarian regimes through democratic means²⁴.

Time management

There is a strong case to be made that hunters and gatherers worked much less than we do. They had leisure time in abundance and a greater amount of daytime sleep per capita per year than any other society²⁵. Sahlins refers to observations by McCarthy and McArthur showing that, on average, they devoted no more than four hours a day to food acquisition. Another observation results in five hours and 10 minutes on average. Taking into account that they worked seven days out of seven, we then arrive at maximum of 35 hours per week. This is true for gathering, but not for hunting. The men did not go hunting every day. So it is less than 35 hours on average.²⁶

Recent research by a group of scientists tells us more about the sleeping habits of three groups of contemporary hunter-gatherers: the Hadza, who live in northern Tanzania; the Tsimane, who live in Bolivia; and the San, who live in Namibia. What they found was that, despite their geographical and cultural differences, there was a similar sleeping pattern between all three groups: They were relatively healthy and got on average only 6.4 hours of sleep a day (ranging from 5.7 to 7.1 hours per night), sleeping an hour longer in winter.

The result of these sleep patterns: Almost no one suffered from insomnia. There is not even a word for insomnia in any of their languages. Most slept outside or in moderate cabins. By contrast, an estimated 48% of Americans report insomnia occasionally; 22% say they have insomnia every night or almost every night. Inability to sleep is not only annoying, it is dangerous and is associated with

23 Ruiz Collantes, Xavier F., 2024, Democracy against Homo sapiens alpha: Reverse dominance and political equality in human history. *Constellations*, 31, 233–252. <<https://doi.org/10.1111/1467-8675.12680>>

24 Kim, Wooseok and Nazrullaeva, Eugenia and Neundorf, Anja and Northmore-Ball, Ksenia and Tertytchnaya, Katerina, Strategies of Political Control and Regime Survival in Autocracies (December 19, 2024). Available at SSRN: <https://ssrn.com/abstract=5064279> or <http://dx.doi.org/10.2139/ssrn.5064279> <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5064279>.

25 Sahlins, Marshall, 2016, Stone Age Economics, [ark:/13960/t35190x6x](https://archive.org/details/StoneAgeEconomics_201611/mode/2up), Internet Archive HTML5 Uploader 1.6.3, <https://archive.org/details/StoneAgeEconomics_201611/mode/2up> p. 14.

26 Sahlins, Marshall, 2016, pp. 14-17.

a variety of health problems such as obesity, diabetes, depression and cardiovascular disease. It limits our overall mental and physical capabilities²⁷.



Figure 7: One story, "The Sun and the Moon", clearly communicated norms of gender equality and cooperation. "There is a dispute between the sun (male) and the moon (female) to light the sky. After a fight, in which the moon turns out to be as strong as the sun, they agree to share the task - one during the day and the other at night." An Agta story about cooperation and equality between men and women. Paulo Sayeg, author provided, elder member of the Agta hunter-gatherer tribe in the Philippines.

27 Yetish, Gandhi et al., 2015, Natural Sleep and Its Seasonal Variations in Three Pre-industrial Societies, Current Biology, Volume 25, Issue 21, p2862-2868 November 02, 2015, <[https://www.cell.com/current-biology/fulltext/S0960-9822\(15\)01157-4](https://www.cell.com/current-biology/fulltext/S0960-9822(15)01157-4)>.