

Why Story Matters: The Fitness Enhancing Strategies in Storytelling

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Abstract: Did storytelling in ancestral society help individuals to accrue fitness benefits? Here I explore what benefits storytelling brings to the storyteller and the audience respectively from the perspective of evolutionary psychology. Early human societies did not have the large number of technological innovations that we have that let us accomplish more and more in ever less time; time was relatively precious to ancestral humans. In this context, the emergence of "storytelling" presents a quandary. Why did people organized such collective activities and why did they spend time listening to the content of stories?

Keywords: Storytelling, Fitness benefits, Evolution psychology, Social norms

1. Introduction

When natural selection puts pressure on human survival, they develop different mechanisms to adapt to the new environment accordingly. Evolved psychological mechanism explains, that when the individual is given input information, it can foreshadow to the organism the adaptive problem it is facing. For example, when a person sees a snake, the visual input information tells the individual that he is facing a particular survival problem: injury or poisoning. Furthermore, evolved psychological mechanism can translate input information into output information. It allows humans to evolve to better respond to complex and diverse problems in a specific way, thus allowing flexibility in human behaviour.

Early thesis studies, such as Eric Schniter's [1], examined the impact of storytelling on the cultural construction of present-day tribes in the Americas, and Michelle Sugiyama specifically examined the educational role of storytelling in forager society, provided thinking of how storyteller and audience interact with each other [2]. They present constructive hypotheses and conclusions, but do not consider the evolutionary mechanisms of storytelling in an integrated way, analysing step by step how storytellers and audience respectively solve their own adaptive problems from the perspective of evolutionary psychology when they are involved in storytelling.

From this perspective, this paper aims to explore the reasons for the emergence of storytelling in early societies and whether its emergence helped humans to better cope with specific adaptive problems, and how evolved psychological mechanism enhanced the significance of storytelling for human society.

2. Theory 1: Social Transmission of Knowledge

This theory argues that the information contained in storytelling is useful to the audience to some degree. The information that appears in stories could have a connection to problems that are relevant to survival. In this way, the audience can "listen" to the story in order to receive in advance at the cognitive level what they would otherwise have to learn from their own experience. In addition, they may rehearse some possible solutions in advance of facing those problems. In this way, when encountering real problems, humans could have been better prepared with appropriate strategies.

The pervasiveness of storytelling suggests that it may have an adaptive function [3]; that is, it may have evolved because it brought some fitness benefit to individuals in the early ancestral society in which it emerged. Humans are highly dependent on the ability to generate new knowledge through exploration, experimentation, and inference. This ability enables humans to compensate for their anatomical limitations (relative to other meat-eating animals) by inventing tools and tactics that allow them to access resources that would otherwise be unavailable to them.

Oral storytelling transmits generalized knowledge that rooted in recurrent themes or problems in a forager society. For instance, themes such as warfare deliver knowledge of the preparation for armed conflicts [4]. Individuals can analysis the strategies and tactics involved to be more successful when facing that problem later. In addition, early adulthood needs to have access to vital information to expand their probability of survival. This selection pressure led ancestors to share information so as to reduce cost and risk of knowledge acquisition and increase reproductive benefits.

An important facet to consider here is kin selection theory, which suggests that the closer the kin, the stronger the animal's tendency to cooperate and behave altruistically with each other. As individuals share the same genes with their parents, siblings and other relatives, individuals instinctively display altruistic behavior to give their relatives a greater probability of reproductive success. If the audience of the storyteller contains relatives, this further incentivizes the storytelling strategy.

Like gossip, story is valued by the amount of social information it contains. Storytelling may have originated as an opportunistic response to the human need for social. It can thus be seen as a transaction in which the listener's benefit is the information about his or her environment, and the storyteller's benefit is to motivate the listener's behavior in order to satisfy the storyteller's fitness interests. Moreover, evidence show that people are better at remembering the information that is related to their personal interests [5].

3. Theory 2: Storytelling to Strengthen Social Bonds & Norms

As with all communication, storytelling requires storyteller and recipient, which means that this narrative behavior occurs only in sociable groups. Can storytelling promote a sense of community? Daniel Smith and colleagues from University College London, through a study of the inhabitants of the Agta living in the Philippines and the stories that were passed down orally among their tribe, found that storytelling brought significant advantages to both individuals and collectives, and that language and the ability to tell stories drove human social development. The Agta live in groups of about thirty people organized by kinship lineage. The Agta rely on hunting and gathering for their food sources. The researchers asked the elders of the tribe to tell the stories that they usually tell to their children. They collected a total of four stories (containing information on social norms, group cooperation, group identity, gender differences, etc.). It might be possible that human ancestors were operating the enforcement mechanisms of social norms through stories. For example, the emphasis on cooperation, on hierarchy, and on preventing the concentration of power. These themes are not unique to the Agta stories. In total, the researchers collected 89 stories from seven hunter-gatherer social groups, including the Agta. By analyzing these 89 stories, they found that 70% of the stories

contained social behaviors that were normative for human society. In Eric Skchinter's study, the team investigated the oral storytelling among Tsiman Amerindians. Their finding suggests, that Tsiman's story has element helpful for socialization. Both the traditional and the personal stories can provide pedagogical benefits: the content of the story can help to resolve conflict. This can be done by bring interpersonal conflicts out into a open and public space so that other members may make adjustment to their responses [4].

In primitive social forms of tribes, storytelling may helped human ancestors to establish a norm of behavior that regulated members of the organization, coordinated and promoted cooperation among tribal members, conveyed social messages, and shaped group social values [6].

Why Night talk?

Storytelling is typically proscribed during the daytime and/or summer months; consequently, in many groups, stories were customarily told on winter nights [7]. During the long winter nights, cold and darkness restricted outdoor activities [8]; consequently, people needed something with which to occupy their time. Robin Dunbar argues that the "aroused emotions of nighttime storytelling contribute to the secretion of testosterone and to the building of a sense of community": "Whatever the content of the storytelling... An intimate connection is formed between the storyteller and the listener, perhaps because aroused emotions encourage the secretion of testosterone, which is beneficial to the establishment of a sense of community." [9].

4. Evaluation of the Storyteller

4.1. Selection Pressure on the Storyteller

Storytelling is generally most common in older and matured individuals. They are often considered by others to be the most credible source of information due to their longer learning curve. Statistics showed that adults aged or over 60 and through the mid-eighties are regarded by the community as most expert in low-strength but knowledge-intensive skills [4]. Storytelling is a post-reproductive life stage for them. As they age, the reproductive value and hunting ability of individuals decrease. To compensate for this effect, individuals may maintain their group value and status through storytelling. This is expected to occur across different cultures and groups.

4.2. Manipulation of the Audience

Since reproductive success ultimately depends on access to limited resources (e.g., food, mates), conflicts of interest among group members are bound to occur, even among closely related individuals. Success in such conflicts depends not only on predictions of others' behavior, but also on manipulation of that behavior [9]. Stories essentially consist of temporal and/or causal representations of phenomenological worlds, mental states, and abstract concepts. These representations can be used to influence or manipulate the perceptions and thus the behavior of others.

5. Evaluation of the Audience

Information about our social environment is critical to promoting our interest in fitness. Gossip is related to the exchange of information about other people. It is becoming increasingly clear that much of human intelligence is social intelligence, the product of choices to succeed in social competition can influence the behavior of potential resource rivals, present and potential allies, possible partners, and, of course, close relatives [9]. Audience are prone to trust the elder storyteller and their close-related kins. They will selectively extract the information that matches their personal interests. Different individual has different genetic components, resulting in different interests and different commands for stories [10].

6. Conclusion

Evidence reviewed support the theory that the main function of storytelling can be seen as a transmission of information, such as traditional ecological knowledge and social knowledge in the reproductive and survival advantage for individuals. The kin selection theory explains the needs for storytelling and this theory may be applied to part of the benefits that storytellers can reap. Early human society may use storytelling as an efficient way to establish social norms and to use it to calibrate other's behaviors.

In addition, elder and matured individuals are considered to be the most reliable information resources as they have been alive the longest. These individuals exhibit an eagerness to transmit information to younger generations as a compensation on their reduced physicality. They do so to increase the related other's fitness and maintain their post-reproductive values for the community.

Audience will selectively listen to stories based on different personal interests. In this case, we should expect to see how storyteller will modify and/or change their versions of stories based on different fitness interests, which storytellers in turns can gain benefit from manipulating the content of the stories. Hence, we should expected to see a mutual beneficial relationship between the storyteller and the audience. Storytelling exhibits an important role in early human society as it helped to strengthen social bonds and transmit vital survival-related information among the groups.

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