

# How and When Did Humans Discover Fire?



By Alex Berezow, PhD — July 23, 2016



[1] *A thoroughly modern human pretending to be an ancient human. (Credit: Shutterstock)*

Much of what we know about early man comes from Gary Larson, the genius behind *The Far Side* cartoon. For instance, because of him, we have anthropological insights on everything from caveman fashion to the invention of the wheel. He also depicted how, in his mind, [caveman researchers discovered fire](#) [2].

But how and when did early man *really* discover fire? That was the subject of a recent review by John Gowlett in the *Philosophical Transactions of the Royal Society B*.

In Dr. Gowlett's analysis, our ancestors' first interaction with fire probably came following a lightning storm or other weather event that triggered natural wildfires. These wildfires would cause animals to scatter, making them easy pickings for early humans waiting on the periphery. (Other animals, such as hawks, are known to engage in such behavior.)

Additionally, after the fire had subsided, the burnt landscape would have allowed for much easier foraging. Some of the foraged food would have been "cooked" by the wildfire, making it more edible and nutritious than when raw. As a result, one of the direct evolutionary benefits of fire was the ability to derive more energy from food. Powerful, hungry brains need calories, and [cooked food provides more calories than raw food](#) [3]. Fire, therefore, helped intelligent humans evolve.

Because wildfires occurred sporadically, the next step in humanity's relationship with fire would be to learn how to preserve it. Fires could be sustained by professional "fire preservers" using slow-burning animal dung. In such a way, a primitive division of labor may have emerged.

Eventually, early humans figured out how to create fire. Given archaeological evidence, this likely occurred no earlier than 700,000 years ago and no later than 120,000 years ago. Some ancient tools required glues that could only have been made using fire. The presence of such tools at various archaeological sites, therefore, suggests the mastery of fire. It is worth noting that fire was not discovered once; instead, it was discovered multiple times by early humans in various locations all over the world.

The author speculates that this would have led to revolutionary changes in early human culture. Mastery of fire would have allowed the establishment of larger, more permanent settlements. This could have led to the development of family structure, language, more advanced division of labor, and eventually agriculture.

Clearly, fire played an integral role in the evolution of our species. Intriguingly, humans are the only animals that know how to control and create fire. Though we have used fire for both tremendous good and profound evil, it is one key way in which mankind is separate from all other species.

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**Source** [4]: Gowlett JAJ. "The discovery of fire by humans: a long and convoluted process." *Phil. Trans. R. Soc. B* 371: 20150164. Published: 23-May-2016. DOI: <http://dx.doi.org/10.1098/rstb.2015.0164> [5]

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#### **Links**

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[2] <https://www.pinterest.com/pin/548665167079572567/>

[3] <http://blogs.discovermagazine.com/crux/2011/12/08/why-calorie-counts-are-wrong-cooked-food-provides-a-lot-more-energy/#.V5MJHpMrJPN>

[4] <http://rstb.royalsocietypublishing.org/content/371/1696/20150164>

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