

The Domestication of Fire

How fire helped make the world "civilized"

By Johan Goudsblom

Is fire "culture"? Most experts think it is. **Fire is learned, shared and transmitted.** There is general agreement that human societies have possessed the culturally shaped ability to control fire for at least 400,000 years [that is more than 10,000 generations] and maybe even for as many as 1.4 million years.



For a very long time, modern historians have thought that the ability for humans to control fire didn't amount to much in the history of human society and culture. Fire, in their eyes, kept humans warm and cooked their food. The historians that believe in this often define the "dawn of civilization" about 10,000 years back, with the beginning of agriculture, followed by the

first cities and the invention of writing. Those historians often call the period before agriculture "pre-civilization" – they believe humanity must have been "uncivilized" during most of its existence.

The First Great Transformation – the control of fire

I take a different view. The domestication of fire has had far-reaching consequences, and it deserves to be ranked as the first great transformation brought about by humans, followed much later by 2 transformations of the same importance – the beginning of agriculture and animal domestication about 10,000 years ago and the rise of industrial factories [industrialization] some 200 years ago.

Fire – the first nonhuman force that was made part of human society – has **4 important characteristics**. First, fire is destructive. It disintegrates matter and reduces it to ashes and smoke. Second, it is irreversible. You can't make the ashes return to their original shapes and colors. Third, fire has no purpose. The combustion process is blind and purposeless. It doesn't matter what fire touches, if the material is flammable, it will be consumed in flames. Of course, the absence of purpose is not unique to fire. The same can be said about

other forces, such as rain and wind. But – and this is a fourth characteristic – fire is self-generating. Fire causes heat, and heat in turn causes fire.

Destructive, irreversible, purposeless, self-generating – this does not sound like a very good or useful list of characteristics. Why should humans have bothered to bring such a force into their societies?

The answer isn't difficult. **Humans could turn the destructive force of fire into productive use**, and give fire a purpose. The fact that fire is self-generating enabled them to preserve and then reactivate it, something that they could never do with rain or wind.

Why is fire such a big deal?

There were many ways of making fire productive for human purposes. You can probably immediately think of the 2 most simple ways – **cooking and clearing land**. By cooking, people could destroy tough fibers and toxic compounds and make substances edible that otherwise wouldn't be fit for human consumption. Cooking extended the range of foods that we could consume.

Clearing land by burning all vegetation may at first seem purely destructive. It has many advantages if you look closer. It drove animals out of their shelters, and allowed humans to **develop techniques to hunt them**. It also made some food more accessible, like gathering nuts and fruits that lay hidden in the undergrowth of the forests. And burning all vegetation created a fertile and unshaded soil that would eventually grow grasses, which attracts wild animals that eat grasses. This created a simple but very effective **positive feedback loop**.

There were other advantages as well. Fire is a **source of heat and light** – fire gave early humans **protection against cold and darkness**. It helped keep animal **predators away**. Fire for early humans brought **comfort and security** – it became a focus of group life and enhanced communication and solidarity. Fire was also used to help sharpen



and harden wood **tools** and bend bones and antlers. And it could always serve as a **source of other fires** when it was necessary to spread them around.

Fire was added to the strength of early human groups – it helped make their societies more productive. The initial increases in productivity, achieved by more effective hunting and cooking, may not have been great at first. Fire also probably led early humans to be more confident and travel beyond the lands they were most familiar with. If fire gave you protection from predators, then early humans probably were not of scared of the unknown. Fire, in the long run, could not fail to bring about a rise in human comfort and an increase in human numbers. **Fire created intensive and extensive growth.**

Fire created *intensive* growth. Just to be able to produce warmth and comfort at will, throughout the year, must have meant a great improvement in living conditions. Fire made the cold winters of Eurasia more bearable. Fire helped humans expand to lands all over and, along with it, population increase of *extensive* growth.

The costs of fire domestication

But fire isn't just a success story. We must acknowledge **that each increase in control caused an increase in dependency**. The increases in dependency were probably unintended, but they were still real. And they were unavoidable. They formed the costs of domestication of fire.

As fire was incorporated into human societies, so was the **need for fuel**. There were very few places where plenty of dry firewood just happened to be lying around – almost every habitat fit for humans had seasons with rain that would soak dry wood. Just having lots of firewood was not enough for any human group to have fire available throughout the year. Social arrangements were needed as well.



The control of fire was always social: it could only be maintained by a group.

Groups of early humans might have looked quite different or acted differently, but they all were remarkably similar when it came to keeping control of fire. It was simply impossible to keep a fire burning for long without at least some cooperation and a division of labor in order to keep it going,

and also to guard it from others. The effort of collecting wood, keeping it dry, and putting it on the fire at the proper time always involved some self-restraint and some discipline. No one was telling early humans how to do this – it was a cultural mutation, requiring a civilizing process.

As people came to rely on their fires, they also came to rely more on the social aspects of fire. They had to live under the social and psychological limitations fire imposed on them. Their living standards and their very survival depended on this! The need for the continued use of fire gave rise to certain “civilizing” social restrictions, and these limits became part of human culture everywhere.

Think about the increasing danger posed by fire in these societies of early humans, and how people tried to cope with this danger. In the process of accelerating extensive and intensive growth, communities began. Each community contained concentrations of people, their possessions and their fires. Think about how dangerous a combination of people, property and fire was (and is)!

So...it all starts with fire

Communities had to not only try to prevent out of control blazes, but also, in the event of a blaze, to stop the fire from spreading and to prevent people from fighting and looting. **Think about the power people had that controlled fire and the people who were tasked with keeping fires from spreading out of control.** Think also about how others would have to listen to these individuals and follow their directions or possibly end up burned to death in an accident. One can clearly see how fire developed a civilization based on **hierarchy** and **rules** and **authority**.

In other words, learning to control fire was, and is, a form of civilization. Because humans tamed fire and used it in their societies, the societies became more complex and the people themselves became more civilized and complex.

The control of fire was not the sole cause of the process of civilization, but it was a critical part of the process and fire contributed to its momentum that is still expanding today.

Excerpts from:

http://www.learner.org/courses/worldhistory/support/reading_4_3.pdf