

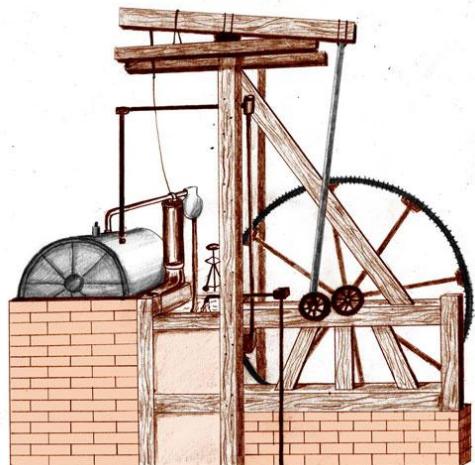


Multimedia Library Collection: Art & Graphics

The Steam Engine

Porras Chassignet, Marina

Initiated by the growing need for raw materials, the development of steam power set off a chain reaction. In order to pump pit water out of mines, steam engines were built near mining sites. Because these steam engines were powered by coal, coal mining became profitable—a mutually beneficial system. Steam power became the energy source for many machines and vehicles, making it cheaper and easier to produce commodities in large amounts. This in turn increased the demand for raw materials used to build more machines that can produce even more commodities. This interdependency accelerated during the Industrial Revolution, and provides insight into the key factors that initiated the social process that today, in turn, gives rise to the Anthropocene revolution.



Steam Engine

Marina Porras Chassignet

Drawn by *Marina Porras Chassignet*, 2014.



This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Lifting water with fire: The steam engine

Text and images by [Marina Porras Chassignet](#)

www.marinaporras.com

University of the Arts (UdK), Berlin



Lifting Water with Fire

“Wow, what power this steam has!”

Drawn by *Marina Porras Chassagnet*, 2014.

 This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).



Now we're going to put big water pumps into the mines!

Drawn by *Marina Porras Chassignet*, 2014.

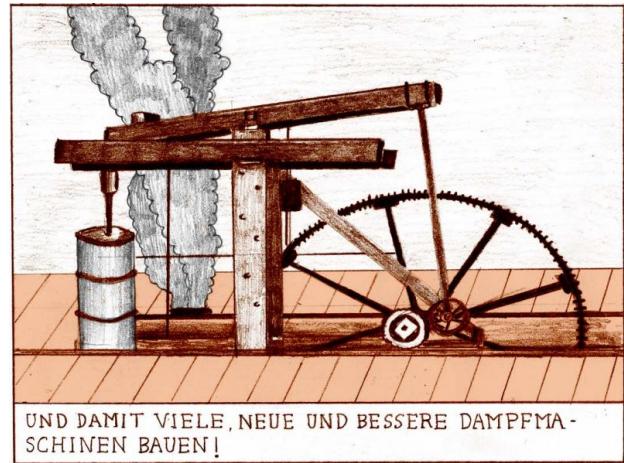
 This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/).



We'll finally be able to dig deeper into the ground and get more coal and iron out of the Earth!

Drawn by *Marina Porras Chassagnet*, 2014.

 This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nd/4.0/).



And, by doing that, we'll be able to build new and improved steam engines!

Drawn by *Marina Porras Chassignet*, 2014.

 This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).

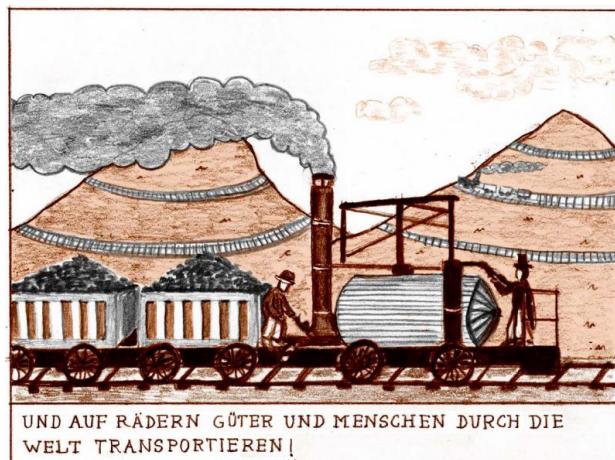


DIE UNSERE FABRIKEN UND STÄDTE ANTREIBEN!

That will power our factories and cities!

Drawn by *Marina Porras Chassagnet*, 2014.

 This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).

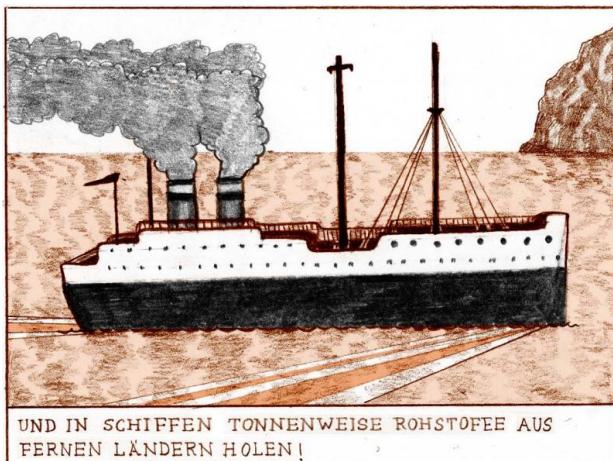


UND AUF RÄDERN GÜTER UND MENSCHEN DURCH DIE WELT TRANSPORTIEREN!

And will transport goods and people all over the world on wheels!

Drawn by *Marina Porras Chassagnet*, 2014.

 This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).

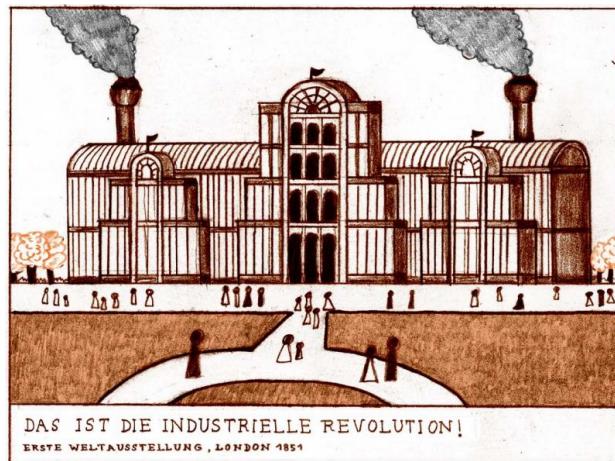


UND IN SCHIFFEN TONNENWEISE ROHSTOFFE AUS FERNEN LÄNDERN HOLEN!

And get raw materials from far-away lands using ships!

Drawn by *Marina Porras Chassagnet*, 2014.

 This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).



DAS IST DIE INDUSTRIELLE REVOLUTION!
ERSTE WELTAUSSTELLUNG, LONDON 1851

That is the Industrial Revolution!

The first World Fair, London 1851



Drawn by *Marina Porras Chassagnet*, 2014.

This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).

Artist's comment:

I used to think that steam engines were only used in trains, so I was surprised to learn of the importance of this machine. Humans created something very powerful from something as simple as steam. The steam engine is a good example for how humanity's constant striving for innovation and development has changed the world. It opened up new dimensions of possibility.

How to cite

Porras Chassagnet, Marina. "The Steam Engine." Environment & Society Portal, Multimedia Library, 2014. <http://www.environmentandsociety.org/node/6627/>.

The comic also appears in Alexandra Hamann, Reinhold Leinfelder, Helmuth Trischler, and Henning Wagenbreth, eds., *Anthropozän – 30 Meilensteine auf dem Weg in ein neues Erdzeitalter. Eine Comic-Anthologie* (Munich: Deutsches Museum, 2014).



This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](#).

Further readings:

- [Sources and Literature for the Anthropocene Milestone Comics](#)

Related links:

- Welcome to the Anthropocene. The Earth in Our Hands. Special exhibition at the Deutsches Museum <http://www.deutsches-museum.de/en/exhibitions/special-exhibitions/archive/2015/anthropocene/>
- Welcome to the Anthropocene. The Earth in Our Hands. Virtual exhibition on the Environment & Society Portal <https://www.environmentandsociety.org/node/6354>
- Steam Engine (Encyclopædia Britannica) <http://www.britannica.com/technology/steam-engine>
- Comic-Anthology, Deutsches Museum Website <http://www.deutsches-museum.de/sammlungen/entdecken/comics/>

Websites linked in this text:

- <http://www.marinaporras.com>
- <http://www.marinaporras.com>

Websites linked in image captions:

- <http://www.deutsches-museum.de/information/jugend-im-museum/erfinderpfad/antriebe/dampfmaschine/>