

Why (not) use a scythe? A discussion of technology, work, and sustainability

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“Wijn”



“and”



Homo faber



MPK:WTAP

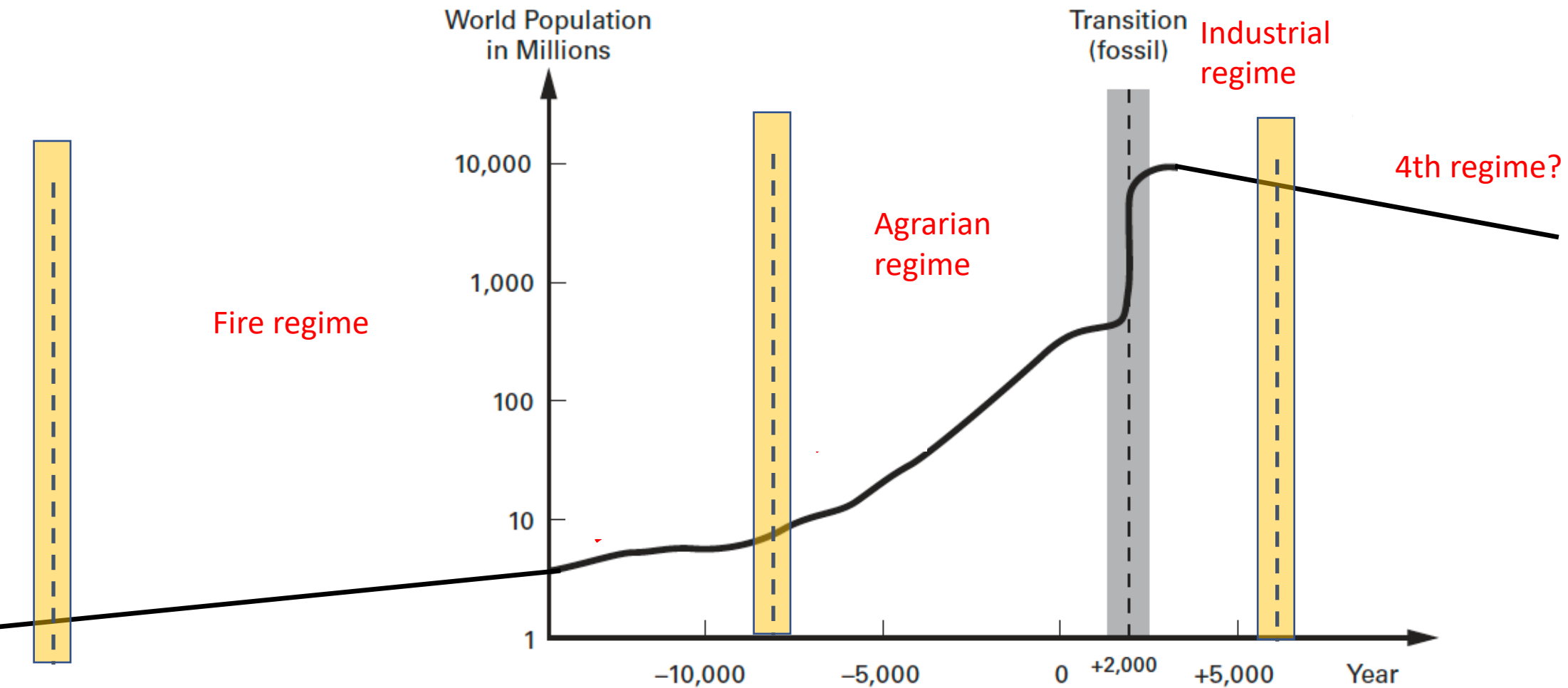
- 3,3 million yrs ago
- Prosthetics
- Increased adaptability
- Led to more complex social life
- Niche construction
- Learning through indirect linkages

Harmand et al. Nature volume 521, pages310–315(2015)



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The history of the Anthroposphere



Human population growth from the end of the last Ice Age with distinctions for the different ways in which populations capture energy (from Baccini and Brunner 2012: 14).

Domestication of fire



- Fire domestication (ovens; hardened spears; language)
- Agrarianisation (writing; iron)
- Industrialisation (fossil fuels, plastics, computer)



Domestication of animals and plants



- Domestication of animals and plants
- Need for human and animal labor
- Settlements
- Homogenisation diet
- Larger, settled populations



Fossil fuels

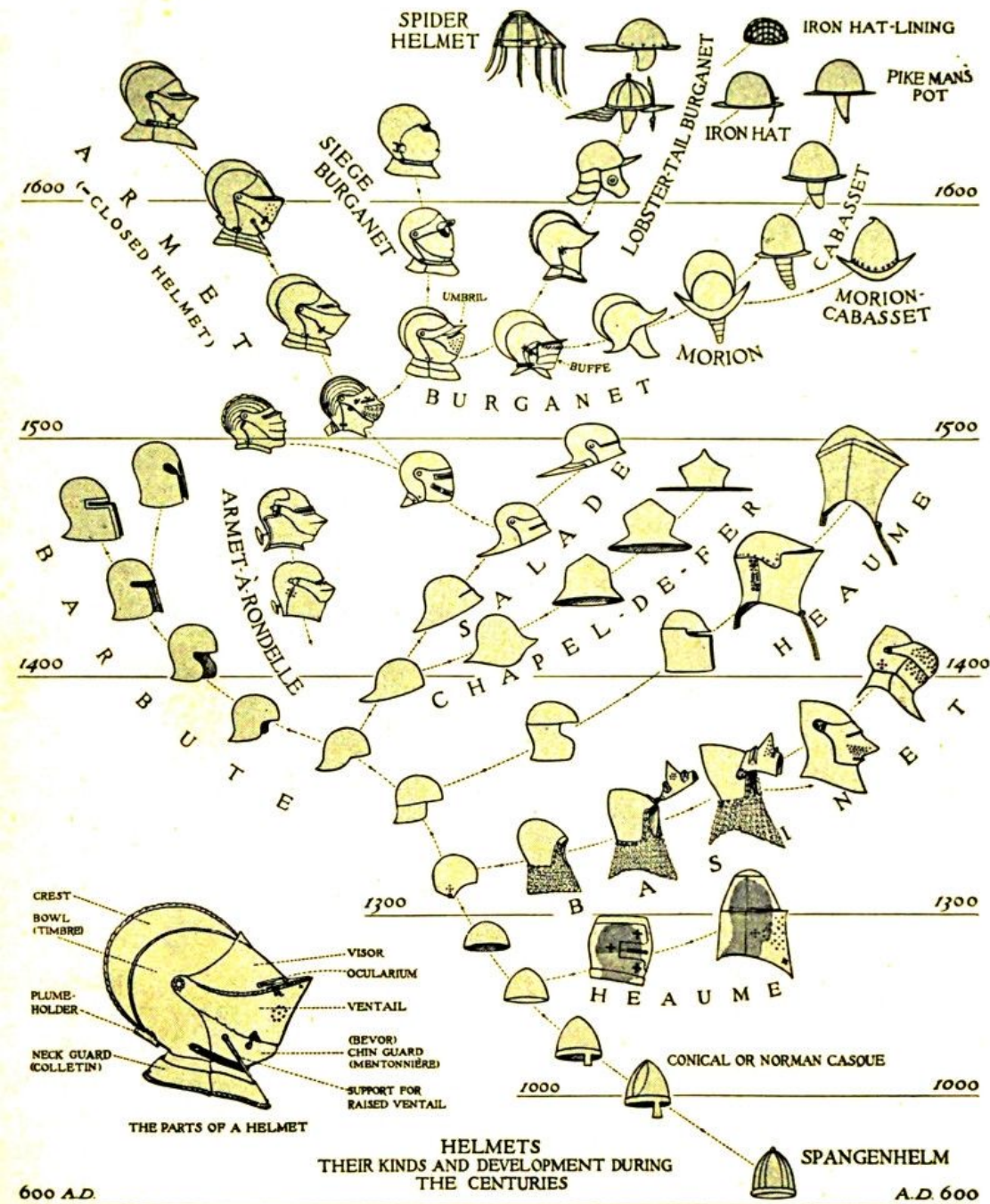


- The great acceleration (Will Steffen)



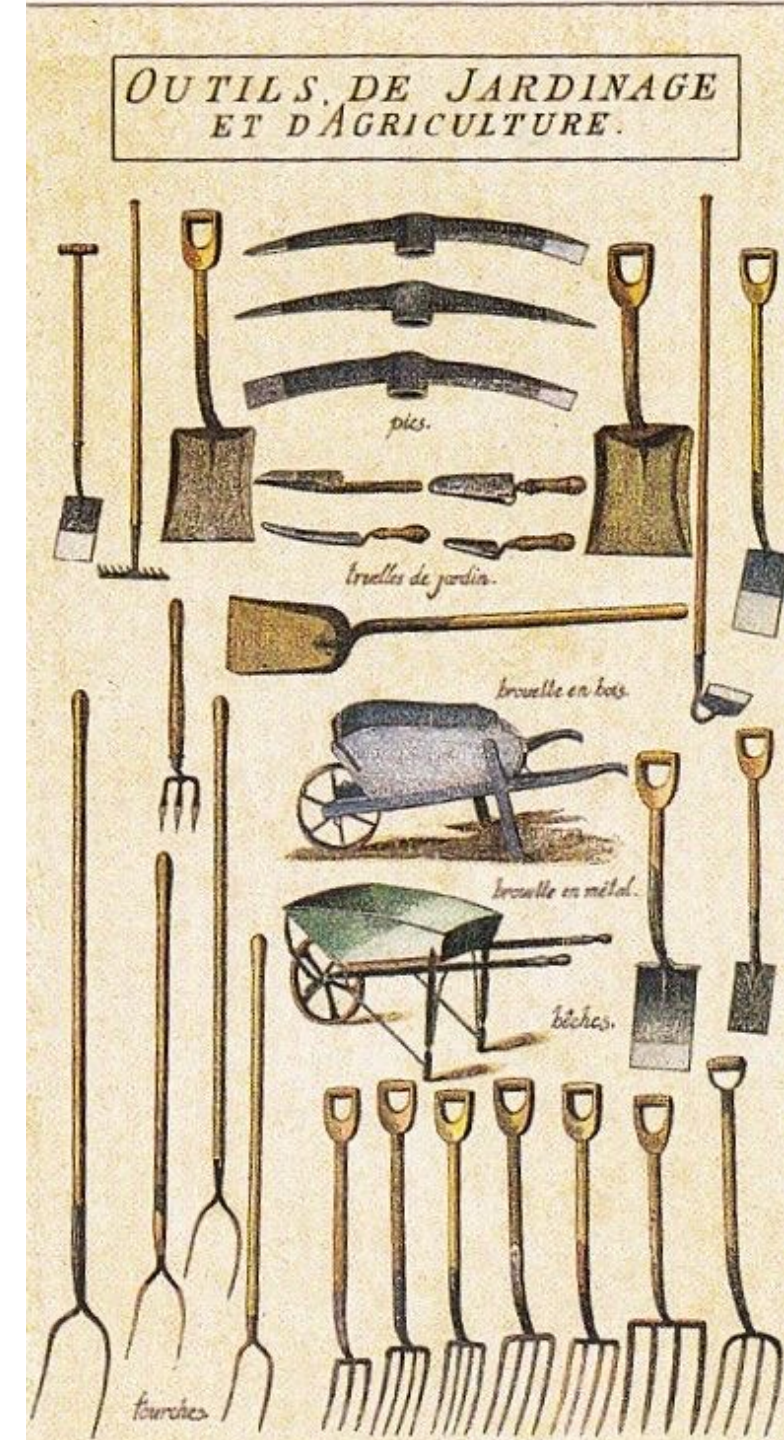
Technological progress

Self-reinforcing system of creation; feedback loops; complex interactions; (Kelly 2010: 46-47).

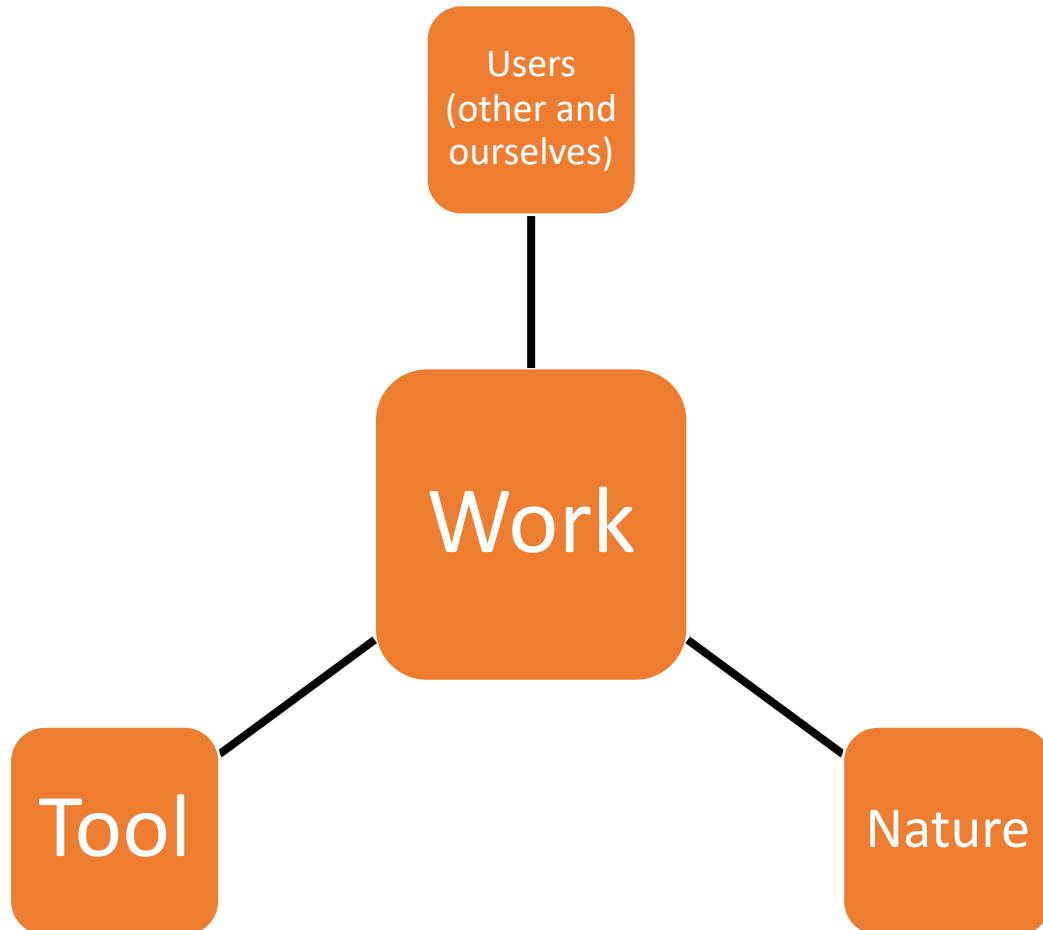


What is technology?

- *Techne* (Greek) = “art, skill, or craft” (personal and contextual)
- Johann Beckmann (1739-1811) coined technology as science of the history of inventions, crafts and inventiveness
- A sum total of tools, skills, work, knowledge
- Using energy in new ways



A framework



“Technology reveals the active relation of man to **nature**, the direct process of the production of his life, and thereby it also lays bare the process of the production of the **social relations** of his life, and of the **mental conceptions** that flow from those relations (Marx, K. 1867 Capital Volume 1, Chapter 15, Machinery and large-scale industry, footnote 4)



Techno optimism

- Ingenuity of inventors and entrepreneurs (Gottlieb Daimler and Henry Ford)
- Freedom to put their ideas in practice
- Price mechanism. This creates strong incentives for people to find alternatives

Enlightenment (technological progress as inevitable)



Techno pessimism

Humans in their original and authentic condition are not inherently polluting the earth. The technology we created is doing this. We need to abandon modern technology (Rousseau; Heidegger)

Romanticism (technological collapse as inevitable)



A third way?

- Enlightenment (1st way): We'll find a solution because human needs change and this will be a push for invention and solutions
- Romanticism (2nd way): Technology alienates from our true, authentic selves. We need to stop technological progress.
- Is it possible to be selective and responsible when adopting technology. Think and value how technology changes our relation with nature, others and ourselves?



Solstizio arboriscan triseft



A close-up, slightly high-angle shot of a lush green lawn. The grass is tall and dense, with some blades reaching upwards. In the bottom right corner, the sharp, curved blade of a scythe is visible, cutting through the grass. The overall scene is bright and green, suggesting a sunny day.

ONE SCYTHE REVOLUTION

MOWING AN OVERGROWN LAWN







”This modern mind sees only half of the horse – that half which may become a dynamo, or an automobile, or any other horsepowered machine. If this mind had much respect for the full-dimensioned, grass-eating horse, it would never have invented the engine which represents only half of him”

(Allen Tate quoted in Berry 2001: 61)





Over 40 years [government and industry] have been invested in selling to society the inevitability and supremacy of a chemically intensive high-tech industrialised agriculture (Miller 2000: 15)



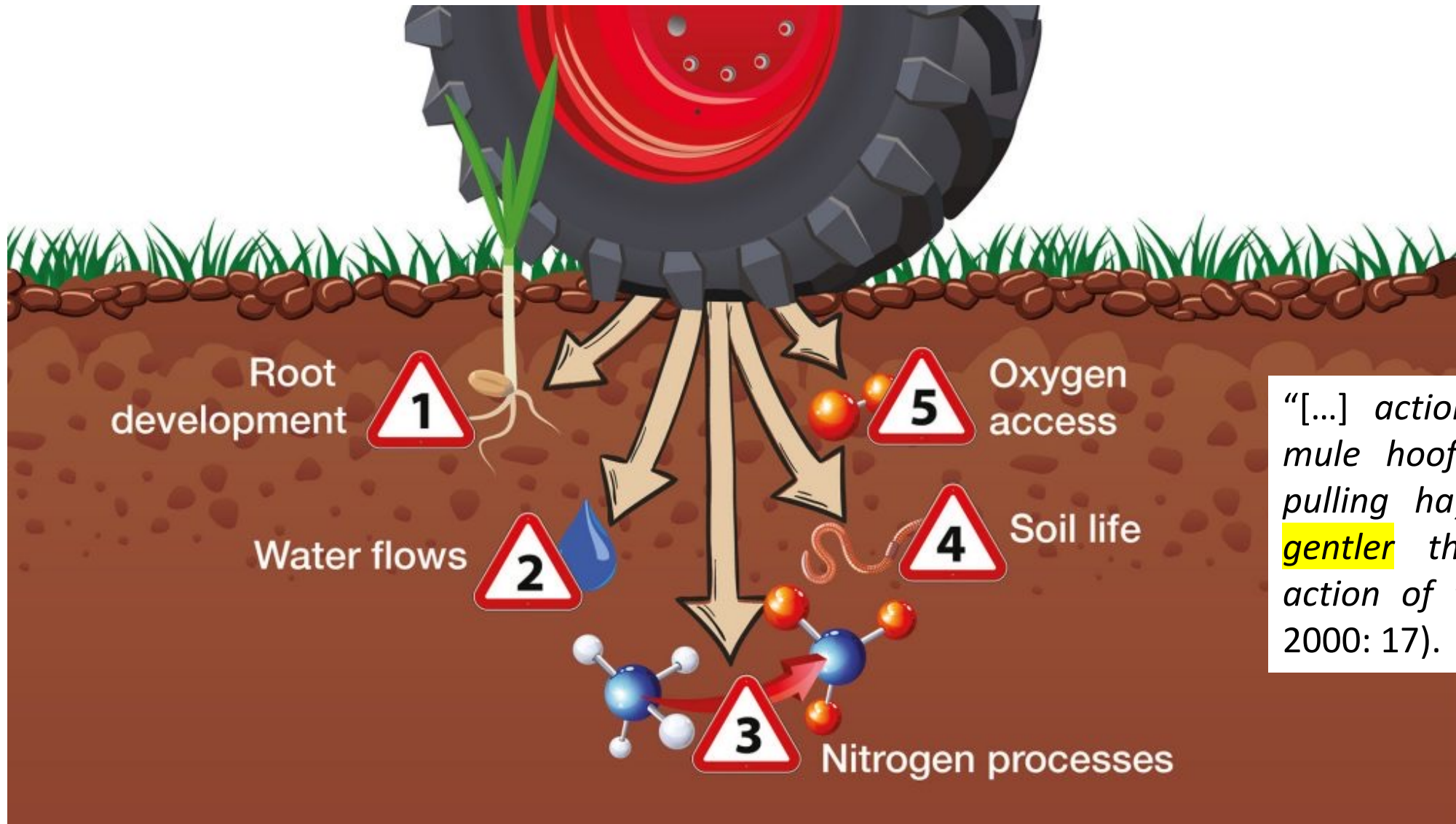




The environmental argument

*“It is really easy to see that the animals can be environmentally friendly. They are taking their hay that you feed them, and turning it into compost that you can spread **back on the land**. They help you reduce the fossil fuels that you use on the farm, and the gas, the carbon dioxide that is being emitted from the engines. In the field and in the forest they are not compacting the soil as much as with a tractor or other heavier equipment.”*





"[...] action of the horse and mule hoofs on the soil while pulling hay implements is far gentler than the rolling pin action of tractor tires." (Miller 2000: 17).

The economic argument

*“Horses themselves cost a lot less than a tractor. And if you **breed one of the horses** you may replace your horses without ever buying another one. And the price of fuels continue to go up. As well it should because it's gonna become a scarce commodity. And one of the reasons there is gonna be a resurgence in farming with draft animals.”*





The autonomy argument

“[...] once acquired, horses, [...], could reproduce themselves. In that sense, they were a ‘**democratic resource**’, ‘a completely and self-sufficient tool’, and one potentially open to all, provided only that the basics of food and water could be obtained [...]. Horses, [...], thus held out possibilities for autonomous development and resistance” (Mitchell 2015: 6)



The scale argument

“One of the things that horses and mules lead you towards is helping you find an appropriate scale for farming. There is a certain amount a horse or team can do in a day. Depends on whether you want to make hay, plough, or cultivate a garden, that helps control how many acres you might choose to work on. The scale that allows you to appreciate the land, and use the land well, and take care of your fertility and all your other interests. Horses fit very well in that program.”





The meaningful work argument

“The most prevalent argument against people on the land is the ‘modern efficiency dictum’: the fewer man hours the more efficient. The logical progression of this argument of course is that man’s time would be better spent elsewhere. And that’s where the theorists have terrible difficulties. Where is elsewhere? Mankind belongs with fruitful, gainful, creative, and satisfying work! (Miller 2000: 16)





The resistance argument

“Just because farming can be done with genetically modified organisms, satellites, robots, and harvesting machines that cost half a million dollars **doesn't mean that it should be done that way**” (White 2015: 1).



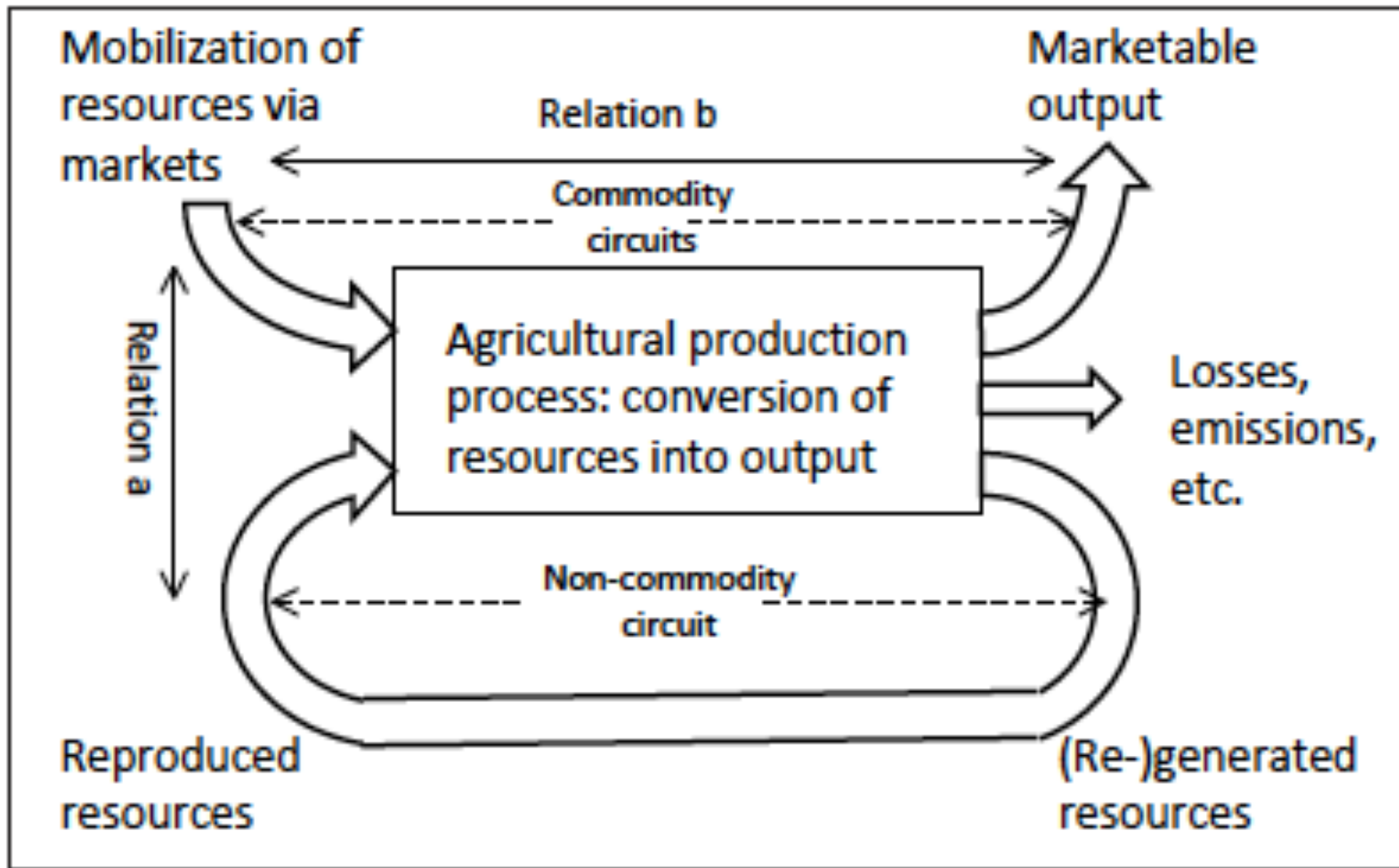


Figure 1: Processes constituting farming (from van der Ploeg 2013: 58).

The preference argument

*“I get a deep sense of personal **satisfaction** from the time I spend working with the animals. So once I take that into the equation then the horses and mules start to beat the tractor in almost every aspect of the farm”*

*“The best thing is ploughing with horses in the autumn. That is... two sweaty horses, autumn air and the smell of earth. That is... and they go there, whether it's the combination or balance. It's all the same. That they are hard pulling but there is nothing that is holding them back. They are completely balanced. And just...use just enough power to pull the plough forward in the tempo I think is good. That is...**incredible**...”*





Horses as organising principle for farming and farmer relations

“[...] horses too have **agency**, that is to say they actively contribute to the construction of the world in which they live. Not, of course, as much as humans, but more so than purely material goods (Mitchell 2014: 7)

”We tend to think of farming as the modification we impose on a landscape to reap our harvests. But there is a **relational** element that in a very real sense also shapes the farmer” (White 2014: 2)





The whole horse:

- Makes farming environmentally sustainable
- Lowers the costs of farming
- Strenghtens the autonomy of the farmer
- Keeps farms small and slow so that farmers remain in contact with nature
- Gives meaning to farm work
- Resists the expansion and intensification of farming

Reasons why farmers prefer to work with horses.



Amish

- They are **selective**. They know how to say no and are not afraid to refuse new things. They ignore more than they adopt.
- They **evaluate new things by experience** instead of by theory. They let the early adopters get their jollies by pioneering new stuff under watchful eyes.
- They have **criteria by which to make choices**: Technologies must enhance family and community and distance them from the outside world.
- The **choices are not individual but communal**. The community shapes and enforces technological direction.

Horsefarming and horsefarmers as sub(agri)culture



Hephaistos puzzle



- Progress and development is inherently dependent on innovation, handwork, know-how, craftsmanship. Yet, history shows that people on top have always been people manipulating the symbolic, such as priests and nobility (Leroi-Gourhan 1964)



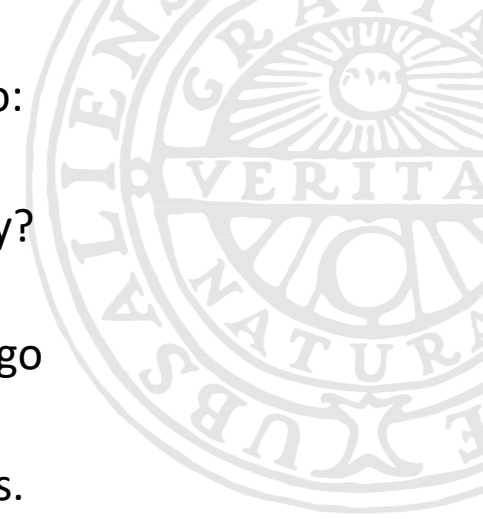
Technology guidelines (Kevin Kelly)

- **Cooperation**. It promotes collaboration between people and institutions.
- **Transparency**. Its origins and ownership are clear. Its workings are intelligible to nonexperts. There is no asymmetrical advantage of knowledge to some of its users.
- **Decentralization**. Its ownership, production, and control are distributed. It is not monopolised by a professional elite.
- **Flexibility**. It is easy for users to modify, adapt, improve, or inspect its core. Individuals may freely choose to use it or give it up.
- **Redundancy**. It is not the only solution, not a monopoly, but one of several options.
- **Sustainability**. It minimises impact on ecosystems. It has a high efficiency for energy and materials and is easy to reuse.



Literature

- Nye, D.E. 2006. Technology matters: Questions to live with. MIT Press
- Kelly, K. 2010. What technology wants. Penguin Books
- Berry, W., 1981. The gift of good land: Further essays cultural and agricultural. San Francisco: North Point Press.
- Coeckelbergh, M. (2012). Technology as skill and activity: revisiting the problem of alienation. *Techné: Research in Philosophy and Technology*, 16(3), 208-230.
- Veblen, T., 1914. The instinct of workmanship and the state of the industrial arts. New York: Palgrave Macmillan
- Thorlindsson, T., Halldorsson, V., and Sigfusdottir, I.D., 2018. The sociological theory of craftsmanship: An empirical test in sport and education. *Sociological Research Online* 23: 114-135.
- Ingold, T., 2000. The Perception of the Environment. London: Routledge.
- Larrère, C., & Larrère, R. (2018). Technology and Nature. In *French Philosophy of Technology* (pp. 189-208). Springer, Cham.



- Jonas, H. 1984. The imperative of responsibility. In search of an ethics for the technological age. Chicago: University of Chicago Press.
- Ignatow, G., 2007. Theories of embodied knowledge: New directions for cultural and cognitive sociology? Journal for the Theory of Social Behaviour 37: 115-135.
- Harper, D., 1987. Working knowledge: Skill and community in a small shop. Chicago: University of Chicago Press.
- Crawford, M.B. 2009. Shop class as soulcraft: An inquiry into the value of work. New York: Penguin Press.
- Carolan, S., 2008. More-than-representational knowledge/s of the countryside: How we think as bodies. Sociologia Ruralis 48: 408-422.
- Sennett, R., 2008. The Craftsman, New Haven: Yale University
- Ploeg, J.D. van der, 2013. Peasants and the art of farming: A Chayanovian manifesto. Rugby: Practical Action Publishing
- Berry, W. 2001. The whole horse. Pp. 63-79. In E.T. Freyfogle (ed.) The new agrarianism. Land, culture and the community of life. Island Press: Washington.
- Crawford, M., 2020. Why We Drive: On Freedom, Risk and Taking Back Control. Random House.
- Leslie, W. 2015. Horse-powered farming for the 21st century. A complete guide to equipment, methods, and management for organic growers. Chelsea Green Publishing, White River Junction, Vermont.
- Mitchell, P. 2015. Horse Nations. The worldwide impact of the horse on indigenous societies Post-1492. Oxford University Press: Oxford.
- Miller, L.R. 2000. Haying with horses. Small Farmer's Journal: Cedar.





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