



**TECHNIK**



**companion**

## INTRODUCTORY WORDS

We are proud to welcome you to the fifth edition of the THINK Conference.

This year's edition will again feature a highly intense programme of 17 talks and interventions, as well as a varied side programme and socialising events. The proposed contributions come from a vast number of different fields of expertise, reflecting the diversity and the commitment of our speakers. This companion will guide you through the conference and includes a timetable and all submitted abstracts.

What should you expect from the THINK V Conference?

Looking all around us, we realise that we are going through very exciting times. Scientific and technological advances of the past and present continue to leave their mark on humankind, for the better - and for the worse. At the same time, our understanding for the world in which we live better is deeper and more extensive than ever before - and accessing this knowledge has never been easier.

It is the objective of the THINK V Conference to help us access the unfathomable wealth of knowledge that is available to us today, to understand more about the crazy world in which we live in, and to debate how we want to live our lives tomorrow.

This may sound rather ambitious—and it is. There is a lot at stake and there is a lot for us to do. Therefore, we invite you to speak up at any point to share your thoughts, and to pay close attention to other people's interventions. Be *curious*, be *critical*, and do not forget to be *respectful* with those with whom you disagree.

*The THINK Team*

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Österreichische Hochschüler\_innenschaft  
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Markus Hoffmann

*E-sports at the Olympics? Alternative Understandings of Sports.*

The addition of five new sports for the Olympic games next year in Tokyo shows that the landscape of what is considered as a (popular enough) sport is still changing [1]. At the same time, proponents and fans of electronic sports (or e-sports) are trying to get it widely recognized as a type of sports, with more or less success. E-sports can be defined as “a form of sports where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the eSports system are mediated by human-computer interfaces” [2, p. 213], and basically means competitive, professional computer/video gaming.

What I want to talk about is not so much the success or failure of e-sports to establish itself as a sport (or to get included in the Olympics), but one issue that I have seen rarely addressed in these discussions – namely the difference of ownership. Unlike other sports, the games played in e-sports are developed and maintained by game studios, who hold the rights to these games together with their publishers. Using the example of a currently very popular game in e-sports, I want to show how the fact that it is owned by a single company 1) heavily influences how the competitive scene is structured, 2) makes it possible to keep the sport evolving all the time, and 3) makes attempts to stage big tournaments without these companies in the boat futile.

[1] <https://www.olympic.org/news/ioc-approves-five-new-sports-for-olympic-games-tokyo-2020>

[2] Hamari, J., & Sjöblom, M. (2017). What is eSports and why do people watch it? *Internet Research*, 27(2), 211–232.

Moritz Kriegleder

*Non-mechanistic Approaches to the Mind:  
A New Paradigm for Neuroscience*

Predictive Processing is a novel approach in cognitive science that models cognitive and conscious processes not only as computation from sensory inputs but is integrating perception and action into a unified framework [1]. Before this change of perspective, Neuroscience failed to find neural correlates of consciousness, or a specific area in the brain that is involved in creating conscious experiences [2]. By unifying perception and action, Predictive Processing deals with the dynamic behaviour of functionally connected brain networks and not only with physiological structures. In my talk, I will argue that this new approach is grounded in a constructivist and subjective methodology that draws on diverse ideas from physicist Helmholtz, neurobiologist Varela and artificial intelligence researchers Rao & Ballard. By overcoming reductionist and mechanistic ideas, we can develop a new approach to neuroscience that is not only quantitative, descriptive and generalisable but also includes co-evolution of system and observer and enactivism in a holistic framework [3]. To conclude, I will also touch on recent experimental tests of the theory and how it can be used to improve the current development of general artificial intelligence.

- [1] Clark, A. (2013). Whatever next? Predictive brains, situated agents and the future of cognitive science. *Behav. Brain Sci.* 36, 181–204.
- [2] Koch, C., M. Massimini, M. Boly, and G. Tononi. Neural Correlates of Consciousness: Progress and Problems. *Nature Reviews Neuroscience* 17, Nr. 5 (Mai 2016): 307–21.
- [3] Hohwy, J. (2013). *The Predictive Mind*. Oxford: OUP.

Mark Strempel

### *Limits of Computation*

With the ever rising power of computers it seems like there is no limit to what computers can achieve. Does this mean that at some point in the future computers will be able to answer questions no human could? Is there maybe a limit to what computers can answer? How would such a limit look like? Also what is does it mean to compute? Is computation the same as thinking or physics?

In the 1930s Alonzo Church, Alan Turing, Kurt Gödel and Alfred Tarski asked the same questions. Their research would lead to the Church-Turing Thesis, Gödel's Incompleteness Theorem and Tarski's Undefinability of Truth Theorem. These theorems establish a clear picture as to what can be known by the means of computation. In my talk I will present these results and talk about the meaning, their consequences and interpretations.

Simon Rella

*The Road Most Travelled?*

Ants are truly surprising animals. Whenever I encounter a colony in the forests I could spend hours admiring every little detail of their interaction patterns. Then I step back and after a while the ant mount as a whole seems to become alive. While each ant is just following its own local rules, the colony is able to perform complicated tasks, such as caring for the brood, hunting, foraging, building, cleaning and surviving for decades. There is no schedule: their power emerges through self-organization. In my talk I will first review some of the more secret ant powers to blow your mind, and then go on to potential applications of the study of ants. These will include visions for self-organization in robotics, agriculture and living.

- [1] Hölldobler, Bert, and Edward O. Wilson. „The ants“ (1990)
- [2] Mlot, Nathan J., Craig A. Tovey, and David L. Hu. „Fire ants self-assemble into waterproof rafts to survive floods.“ (2011)
- [3] Offenberg, Joachim. „Ants as tools in sustainable agriculture.“ (2015)
- [4] Halloy, José, et al. „Social integration of robots into groups of cockroaches to control self-organized choices.“ (2007)
- [5] Krieger, Michael JB, Jean-Bernard Billeter, and Laurent Keller. „Ant-like task allocation and recruitment in cooperative robots.“ (2000)
- [6] Brambilla, Manuele, et al. „Swarm robotics: a review from the swarm engineering perspective.“ (2013)

Nino Lauber

*Minimal Metabolism as a Central Concept  
for Understanding the Origins of Life*

The question about the origins of life on earth has been engaging interdisciplinary researchers from the fields of biology and chemistry for decades. Several approaches and ideas have been proposed but there is still not a definitive answer to the question how and when life on earth started to develop. One of the main issues is that in order to investigate the origins of life, one has to define what constitutes as a living system in the first place. However this questions is not even remotely easier to answer than the initial one. One way to approach both of the above mentioned problems is to consider a metabolism as the main keystone for a living organism. Under that assumption, researching the origins of life boils down to investigate the chemical evolution of metabolic reaction systems. In other words, there must have been a point in the early stages of the primordial earth where chemical reactions began to form cycles that then became the first metabolisms of early, proto-celular organisms. In this talk I want to explore what are the minimal requirements for a system of chemical reactions in order to be regarded as a metabolism as well as under what conditions does such a system develop and what are the main evolutionary steps that happen in this development.

Matthias Hübner

*Monogamy—Part of Human Sexuality or a Lie?*

Sex is the driver of evolution. At the same time, a lot of today's issues stem from this primordial force.

Our society is step by step growing in diversity and acceptance. Still, the attacks on the idea of difference continue and many people are still ridiculed, even from within their own circles. Alongside, confusing subcultures develop, like people describing themselves to be an animal in spirit or people caring a lot about fictional characters. These concepts might originate from the divided and confusing approaches to sexuality in our western societies. On the one hand "Sex sells" is a well-used marketing strategy. On the other hand, many try to cherish it as something delicate or in extreme cases classify it as profane act. Some may see it as a vary animalistic part of us and therefore needs to be regulated. Then again, sex under the influence of various chemicals and drugs—"Chemsex"—gains slowly popularity. Additionally, the term "The war of sexes" describes perfectly the intensity of this topic. This anthropological theory tries to explain the seemingly opposed reproductive strategies of men and women.

So, between these extremes, what consensus can be described?

Sex is the basis of life. In most cases it is purely instinctive and for the purpose of reproduction. There are few exceptions in mammals. Three of them are the Bonobos, the Chimpanzees and Humans. 6 million years ago the three species diverge from one common ancestor. Nevertheless, they share some definitive behaviours with us. Firstly, Bonobos and Chimpanzees form tight family groups. Secondly, they appear to have sex for pleasure.

What can we learn about ourselves when we study how they do the do? And is this "War of sexes" reality or well-established fantasy?

A collection of useful links:

- [1] Sex at Dawn: How We Mate, Why We Stray, and What It Means for Modern Relationships von Christopher Ryan (Author), Cacilda Jetha (Author)  
Overview of this books key elements in this article:  
Equality and polyamory: why early humans weren't The Flintstones  
<https://www.theguardian.com/science/blog/2015/may/19/equality-and-polyamory-whyearlyhumans-werent-the-flintstones>
- [2] The bonobo genome compared with the chimpanzee and human genomes  
<https://www.nature.com/articles/nature11128>
- [3] Are humans more like chimps or bonobos? The correct answer is changing: <https://io9.gizmodo.com/arehumans-more-like-chimps-or-bonobos-the-correct-ans5794988>
- [4] The evolution of sexuality in chimpanzees and bonobos  
<https://link.springer.com/article/10.1007/BF02734089>
- [5] Sexual selection <https://www.sciencedirect.com/science/article/pii/S0960982210015198>
- [6] MHC-correlated odour preferences in humans and the use of oral contraceptives:  
<https://royalsocietypublishing.org/doi/full/10.1098/rspb.2008.0825>
- [7] Article about Chemsex: <https://medium.com/addaction-voices/with-the-chemsex-scene-booming-are-gaymen-using-drugsto-medicate-complex-issues-around-sex-a7afb754a97f>
- [8] Evolutionary Battle of the Sexes Drives Human Height <https://www.livescience.com/22179-evolutionarybattle-sexes-height.html>
- [9] Mediation and sex problems <https://www.psychologytoday.com/us/blog/all-about-sex/201905/mindfulnessmeditationhelps-resolve-many-sex-problems>
- [10] Popular Porn Searches: <https://www.esquire.com/lifestyle/sex/news/a52061/most-popular-porn-searches/>

Chiara Cardelli

*Workshop*

*Rethinking Academia and the Production of Knowledge*

Different changes are likely to reshape academia in the next decades, probably revolutionizing the way we produce and share knowledge. We are living in a mediatized world, in which the access to information and knowledge has become less elitist, and this leads laypeople to question the authority of academics, raising issues about the democracy of science [1]. Moreover, the academic international enterprise is producing an increasing amount of data and publications, and this makes necessary the implementation of a knowledge management system ensuring that this information is not lost and truly accessible, and not just alimending a self-sustaining closed system. But academia is facing a big crisis also from the inside: academics have their research and life choices to be ultimately driven by the „publish or perish“ approach [2], and the current academic publishing system seems untenable in front of today’s society largely based on free sharing of information and open access to knowledge (real or fake). Last but not least, new features such as the production of big data, machine learning and artificial intelligence have the power to change the creation and sharing of knowledge how we conceive it now, as well as the role of the scientist [3]. The fact that a big portion of the most advanced research on artificial intelligence, as well as the access to big data, are largely controlled by big private companies further complicates this matter. This workshop is aimed at giving the participants a brainstorming and discussion space to imagine how will the production of knowledge look like in 30 years from now. The participants will be divided in groups of 4- 5 people, each group will be asked to imagine the future of a specific subtopic of the problem and in the end report their thoughts to the whole audience.

- [1] Harambam, Jaron, and Stef Aupers. „Contesting epistemic authority: Conspiracy theories on the boundaries of science.“ *Public Understanding of Science* 24.4 (2015): 466-480.
- [2] Rawat, Seema, and Sanjay Meena. „Publish or perish: Where are we heading?.“ *Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences* 19.2 (2014): 87.
- [3] Bansal, Kshitij, et al. „HOList: An Environment for Machine Learning of Higher-Order Theorem Proving (extended version).“ *arXiv preprint arXiv:1904.03241* (2019).

Flavio Del Santo

*Revising our Political Values: A Society not Based on Work.*

The two major political-economic theories that shaped the World in twentieth century—capitalism and Marxism—both regard labour as the central element of society. While capitalism prizes work as the individual mean to achieve success in a competitive market, Marxism aims at raising awareness among the collective class of those who are exploited in the capitalistic process, elevating work to the mean of control in the production line. This pivotal importance attributed to work, regarded as a fundamental moral value, is something that is strongly rooted in today's society: since childhood we are expected to learn the life lesson that “without hard work, nothing grows but weeds, There must be labor, incessant and constant, if there is to be a harvest.” [1]. I will try to dismiss this view, and propose that we should reject the role of work as a moral value per se, in the face of the technological revolution that has taken place in the last decades. In fact, if there is any merit in technology, this ought to be the liberation of humans from the slavery of labour, and the possibility to provide a fairer society where the right of living a dignified life is regarded as the fundamental priority. As early as 1930s, Bertrand Russel noticed that (at that time!) “modern technique ha[d] made it possible to diminish enormously the amount of labor required to secure the necessaries of life for everyone” [2], and the great economist John M. Keynes stated that technology would have been sufficiently advanced by the end of 20th century to allow a 15-hour work week [3]. Karl Marx himself had expressed explicitly that we should strive for “the general reduction of the necessary labour of society to a minimum, which then corresponds to the artistic, scientific, etc. development of the individuals” [4]. And yet, today that this type of society based on the redistribution of the primary needs produced by automatization could be largely implemented (e.g. by means of a universal basic income), we live in a world where the 26 richest people own the wealth of the 3.8 billion poorest [5]. I will discuss why work still plays such a seemingly unnecessary role in modern society, and I will follow the thesis that “the answer clearly isn't economic: it is moral and political. The ruling class has figured out that a happy and productive population with free time is a mortal danger.” [3].

[1] This quoted sentence was stated by the Mormon leader Gordon B. Hinckley in the speech “Farewell to a prophet”, in July 1994

[2] Russel, B. 1935. “In praise of idleness”.

[3] Graeber, D. 2018. “Bullshit jobs: the rise of pointless work and what we can do about it”

[4] Marx, K. 1857. “Fragment on machines”. In “Grundrisse der Kritik der politischen Ökonomie”.

[5] Organ, J. 2019. <https://blogs.scientificamerican.com/cross-check/revolt-against-the-rich/>

Sarah Georgina Sobota

*What's Left after Democracy?*

Democracy in today's time seems to be criticized and destabilized on a regular basis through parties, media and political institutions. Simultaneously, society is said to be more and more fragmented, and Margaret Thatcher's famous saying "There is no such thing as society, only individual men and women" appears to become more relevant than ever. In my talk I want to show this line of thinking to be part of a democracy-sceptic tradition that goes back to the roots of this very same political practice and that could be part of the solution to the current problems. Upon the liberal values of equality and freedom in politics and an analysis of (now neoliberal) capitalism as pillars of the democratic-republican argument, I will show the continuity of the discourses surrounding democracy, up to today's alternative approaches like post-democracy and anarchist theories.

- [1] Arendt, Hannah (1981/1994): *Mensch und Politik*. Reclam Universal-Bibliothek.
- [2] Goldman, Emma (1911/2009): *Anarchism and Other Essays*. The Anarchist Library, online access. (<https://theanarchistlibrary.org/library/emma-goldman-anarchism-and-otheresays>)
- [3] Kelsen, H. (1929): *Vom Wesen und Wert der Demokratie*. Reclam Universal-Bibliothek.
- [4] Kelsen, H. (1953/2017): *Was ist Gerechtigkeit*. Reclam Universal-Bibliothek.
- [5] Kropotkin, Peter (1919/2014): *Die Eroberung des Brotes*. Alibri Verlag, Aschaffenburg.
- [6] Lijphart, Arend (1997): *Unequal Participation: Democracy's Unresolved Dilemma*. In: *The American Political Science Association*, Vol.91/1. 1-14.
- [7] Marlinspike, Moxie; Hart, Windy (2005): *An Anarchist Critique of Democracy*. Online Access (<https://theanarchistlibrary.org/library/moxie-marlinspike-and-windy-hartaudioanarchy-radio-an-anarchist-critique-of-democracy>)
- [8] Mbembe, J.-A. (2003): *Necropolitics*. In: *Public Culture*, Vol. 15/1. 11-40.
- [9] Polanyi, Karl (1944/2017): *The great transformation – Politische und ökonomische Ursprünge von Gesellschaften und Wirtschaftssystemen*. Suhrkamp Taschenbuch Verlag, Wien.
- [10] Poulantzas, Nico (1977/2002): *Staatstheorie*. VSA-Verlag, Hamburg.
- [11] Rancière, Jacques (1997): *Demokratie und Postdemokratie*. In: Riha, Rado (Hg.): *Politik der Wahrheit*. turia&kant, Wien. 94-122.
- [12] Rousseau, Jean-Jacques (1977): *Vom Gesellschaftsvertrag oder Grundsätze des Staatsrechts*. Reclam Universal-Bibliothek..

Thomas Zauner

### *Ecosystem Services and the Commodification of Nature*

Addressing the question of how to act sustainably in and with the world and its human and non-human inhabitants [1,2] is central to continued living in the current age of the Anthropocene [3,4].

The framework of ecosystem services [5] attributes monetary value to nature and its products in order to advance conservation and sustainable use by making them more profitable than unsustainable exploitation. But how can one put such a value on the behavior of a pollinating bee, on carbon-storing woods, or on the cultural value of a landscape? And can such a profit-oriented system even guarantee the sustainable conservation of the environment?

In my talk I will give an overview over the framework of ecosystem services as well as its shortcomings [6]. I will further address the mechanisms at play of turning nature into a commodity to be bought, sold and invested in [7,8]. Specifically, I will present the case of the carbon emission market in relation to carbon-storing woods, its deliberate design, and its performativity [9].

- [1] Tsing, A. L. (2015). *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. New Jersey, Oxfordshire: Princeton University Press.
- [2] Tsing, A. L., Swanson, H., Gan, E., & Bubandt, N. (Eds.). (2017). *Arts of Living on a Damaged Planet*. Minneapolis: University of Minnesota Press.
- [3] Crutzen, P. J. (2002). Geology of mankind. *Nature*, 415, 23.
- [4] Haraway, D., Ishikawa, N., Gilbert, S. F., Olwig, K., Tsing, A. L., & Bubandt, N. (2016). Anthropologists Are Talking – About the Anthropocene. *Ethnos*, 81(3), 535–564. <https://doi.org/10.1080/00141844.2015.1105838>
- [5] Millennium Ecosystem Assessment. (2005). *Ecosystems and human well-being: synthesis*. Washington, DC: Island Press.
- [6] McCauley, D. J. (2006). Selling out on nature. *Nature*, 443(7107), 27–28. <https://doi.org/10.1038/443027a>
- [7] Robertson, M. (2012). Measurement and alienation: making a world of ecosystem services. *Transactions of the Institute of British Geographers*, 37(3), 386–401. <https://doi.org/10.1111/j.1475-5661.2011.00476.x>
- [8] Fourcade, M. (2011). Cents and Sensibility: Economic Valuation and the Nature of “Nature”. *American Journal of Sociology*, 116 (6), 1721-1777.
- [9] Ehrenstein, V. (2018). The friction of the mundane: on the problematic marketization of the carbon stored by trees in the tropics. *Journal of Cultural Economy*, 11 (5), 404-419.

Thomas Kronschläger

*“When You See a Poet Writing Poems—Run.”  
Teaching Contemporary Nature Poetry in School*

When talking about nature poetry, people very often think of old-fashioned poems of the romantic period. In those texts, nature very often served as a landscape that mirrored human feelings and emotions and, in consequence, placed the human being as an opposite to nature. However, since we now live in the age of the Anthropocene rather than in the Holocene, we now know that the old distinction between nature and culture cannot be longer upheld. When the Anthropocene-discourse had reached the German literary studies at the beginning of the millennium, the question how a poetics of the Anthropocene era might look like, has arisen: Contemporary poetry very often uses imagery from the realm of nature and tackles ecological issues just as any other literary genre would do. Brecht’s notion that to write about trees would be a crime was reasonable at the time of its publication (1939), however, today it could be deemed a crime not to write about trees.

As of yet, there have been some efforts to use modern literature in schools, however, when it comes to poetry, teachers tend to go back to old, canonical texts. Therefore, this approach would combine two desiderata: Implementing modern and contemporary poetry into curricula and also possibly opening a discussion of nature and where we humans can be placed in it.

Poems

- [A] Brecht, Bertold. 1939. An die Nachgeborenen.  
<https://www.lyrikline.org/en/poems/die-nachgeborenen-740>
- [B] Hippolyte, Kendel. 1997. “Fascioners of progress” (quote in the title)  
<https://www.lyrikline.org/en/poems/fascioners-progress-14499>

Academic works

- [1] Billen, J. und Hassel, F. 2005. Undeutbare Welt. Sinnsuche und Entfremdungserfahrung in deutschen Naturgedichten von Andreas Gryphius bis Friedrich Nietzsche. Würzburg: Königshausen und Neumann.
- [2] Brunow, B. 2016. „Kulturökologische Literaturdidaktik. Texte als Orte der Begegnung“. In: Grimm, S. u. Wanning, B. (Hg.\_innen). Kulturökologie und Literaturdidaktik. Beiträge zur ökologischen Herausforderung in Literatur und Unterricht. Göttingen: V&R unipress.
- [3] Gabriele Dürbeck, Das Anthropozän in geistes- und kulturwissenschaftlicher Perspektive, in: dies./Urte Stobbe (Hrsg.), Ecocriticism. Eine Einführung, Köln 2015, S. 107–119.

Alina Vetter & Raphael Thonhauser

*Workshop*  
*Prototyping a Realistic Utopia*

Is it utopian to imagine a future where humans and nature can thrive to their fullest potential, side-by-side in a cooperative and integrative manner? What models exist already that include both individual desires and natural limitations in designing our environments? Can 21 century rural and urban inhabitants create added value in a regenerative, low-carbon and resource-efficient economy while providing high levels of well-being, social inclusion, and progress? How do we have to act locally and connect globally in order to create individual and global impact? How comprehensive is comprehensive enough to transform the framework of a system?

Striking the balance between what urban and rural areas need and what the planet wants is mostly a trade-off between economic and ecological considerations with a huge societal impact. In order to overcome the sickness of our time rooting in exploitation of both natural and human resources, it is mandatory to create the framework, where people and nature are enabled to belong and to thrive, while at the same time innovation and global relations are reinforced.

We would like to invite a diverse set of participants for a shared brainstorming to elaborate on the questions above. A particular welcome to people with genuine and intrinsic motivation for being a game-changer as well as people from the areas of technology, agriculture, architecture, education, entrepreneurship and innovation.

We are scouting for pioneers for 1 year in-depth research and fieldwork. We are currently working on establishing an institute to systematically create and implement interdisciplinary and integrative transformation processes based on a global strategy while building bridges within an existing network of national and international top experts, universities, local and regional industries and media. We aim at developing such models with first pilot projects being launched. The world is always changing, in one direction or the other and it's up to us to steer the direction. So, let's talk about our visions and give it a go!

Nina Nemec

*The Sun: The Odd One Out?*

Amongst the billions of stars that are observable in the Universe, our very own central star in the Solar System, the Sun, plays a special role. It is not only responsible for life on Earth, but it also provides an excellent test bed for studying the physics of stars up close.

Observations of the Sun have a long history, with daily observations of solar brightness variations going on for almost 30 years from space-born telescopes. For stars, observations are normally shorter (order of months), but data is available for hundred thousand stars. On the other hand, models and simulations of solar and stellar brightness variations allow us to understand not only the observations, but shed light on previously unanswered question and unknown physical processes. Together, this forms a powerful tool to decipher the characteristics of stars.

In this talk we will discuss several aspects of observing the Sun as a star and what challenges and biases lie within the comparison of the Sun to other stars when it comes to their variability in brightness. What are the physical processes that make the Sun so different from other solar-like stars? Is the Sun, the eponym for solar like stars really the odd one out? If so, why is our Sun so peculiar? Is there hope for the future to find the “solar-twin”?

- [1] Haigh, J. D., Lockwood, M., Giampapa, M., *The Sun, Solar Analogs and the Climate*, 2005, Springer
- [2] Engvold, O., Vial, J.-C., Skumanich, A., *The Sun as a Guide to Stellar Physics*, 2018, Elsevier

Florian Schlederer

*The Eight in the Sky*

The analemma is an celestial diagram, describing all highest points of the sun in the sky throughout a year. Its characteristic asymmetrical eight-shape is often presented on globes; however, its origins are not trivial to conceive. In my talk I elucidate the shape of the analemma and explain its astronomical causes. Afterwards, I turn to the important historical role of the analemma in the process of setting clocks around the world.

Sara Wanek

*The Shape of the Earth:  
Reflections on the Applied Worldview in the Roman Imperial Period.*

Today the easiest way to prove the spherical shape of the Earth are pictures taken by astronauts or satellites. But there are ways to figure out the round shape of the planet we're living on without leaving it. We know that the Earth is round, but still today organizations like "The Flat Earth Society" doubt this fact. Generally speaking "fake news" and "alternative facts" are having a big impact on modern society. Maybe knowing about our past can help us to understand certain tendencies and to shape our future. Thinking of the Roman era, it can be assumed that people were well aware of the fact, that the world was bigger than one's own hometown. Knowing that one is part of a bigger reality, the question might arise, which form the homeland one is living on—planet Earth—has. Considering the applied world-view in the Roman imperial period, it can be stated a fact, that the round shape of the Earth was part of the astronomical expertise of the scientific elite. When it comes to the general public, evidences aren't that explicit due to a lack of written sources. Yet, the round surface of the world causes significant differences on the night sky, which can be easily observed by people on the move. Taking in mind the expansion of the Roman Empire, the vast number of people travelling and the importance of astronomical knowledge for agriculture and orientation, it can be presumed, that these phenomena have been witnessed by a large number of Roman citizens. Apparently, these observations require explanations and they need to be in accordance with one's own world-view. Addressing the material culture, there are artefacts which show a concrete connection to the knowledge of a round world. The appearance of the iconography of globes can be noted on different findings intended for a large public. This paper will focus on the usage of globes, mostly shown as simple spheres or as spheres with crossed lines, as imperial representation and as propaganda for the emperor and put them in relation with the applied world-view of the general public in the Roman imperial period.

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- [3] E. Künzl, *Himmelsgloben und Sternkarten. Astronomie und Astrologie in Vorzeit und Altertum* (Stuttgart 2005)
- [4] R. J. A. Talbert, *Roman Portable Sundials. The Empire in Your Hand* (Oxford 2017)
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*Workshop*  
*How to Lefty Tabloid*

2019 marks the tenth anniversary of the Lisbon Treaty. The Treaty was originally not only intended as a substitute for the patchwork of international treaties, but rather as a constitution, an irreversible milestone in the process of the European project growing together. The failure of this founding process and the subsequent backlash to the point of Brexit stands symbolically for the apparent barriers in the minds and hearts of Europeans. While the European Left is too often caught up in the question of whether saving the European project is in our own area of responsibility, we want to start a debate on how to find new European narratives of the left.

To us it is clear that these narratives need to reach beyond the simplistic call for democratization and they need to be strong enough to overcome reactionary politics. We propose the creation of a left, pan-European mass medium to spread these new ways of thinking about Europe.

At the THINK, we are organizing a workshop on this topic: “How to lefty tabloid“. The workshop participants become journalists at a staff meeting, where they need to put together yet a new edition of their shiny lefty tabloid. These are the core questions the newbie journalists will address:

- Target group: How can we reach as many Europeans as possible from all demographic groups?
- Language: How can we communicate our content without falling back to either populism or jargon?
- Distribution: Which formats and platforms should be used? (print, website, video, radio/podcasts, social , media,...).

