Abstracts

1. **Karl Hall (CEU): Sarton's rivals**

The Second International Congress of History of Science and Technology, held in London in 1931, has often be treated as little more than a proto-disciplinary moment for history of science. If George Sarton was the best-known advocate of professionalization in the Anglophone world, the turn to epistemological questions as constitutive of good method in history of science was dominated by philosophers, most prominently Alexandre Koyré. The most notorious participant in the London Congress, Boris Hessen, presented a Marxist thesis on Newton that was hostile to 'idealist' methods, yet it has likewise been judged harshly qua philosophical propaedeutic for training latter-day historians of science. I want to propose an alternative meta-history that relocates Hessen in the curricular transformation of Soviet physics in the 1920s, and juxtaposes his concerns about the disciplinary functions of history of science with those of several obscure figures outside the Anglo-French nexus. Czech historian of mathematics Quido Vetter, Emanuel Rádl's successor at Charles University, witnessed the Soviet delegation in London and despised its "apodictic" attitude, yet he maintained that "bourgeois" history of science "has already long ago taken notice of the social and economic aspect as well." By shedding light on this and other (non) receptions of Hessen among Europeans in the 1930s—Aleksander Birkenmajer, Władysław Szumowski, József Ernyey, Ede Lósy-Schmidt, Valeriu Bologa—my intention is to highlight anxieties about disciplinarity itself and the potential mediating role of history of science in the post-1918 educational settings of the newly constituted European nation-states.

2. **Imre Hronszky (BME): Technological paradigms**

A meaningful extension (Gutting 1980) of the paradigm conception is that of a technological paradigm. It appeared first at Edward Constant (1980), to interpret history of technology. Philosopher of science Rachel Laudan (1984) introduced it to demonstrate the relative autonomy of technological cognition. With the essay of Govanni Dosi (1982) it appeared in theoretical econonomics. He connected the idea to the evolutionary economics. It offered the overcoming of both the supply and the demand approach and unified the paradigm analogy with the idea of technological trajectory. Apart from its history numerous authors emphasize importance of the paradigm idea for economics even recently. It is easiest to catch this importance if we first liberate ourselves from the still dominating reifying interpretation of the paradigm view in analytical philosophy of science. According to this the first task of a paradigm is to provide for a for a wile valid ontology as a for a while valid description of some part of the world. In its full-fledged form this ontology is contained by a theory that is, for a while compatible with the evolving practical, material system of tools that belong to the paradigm. In evolutionary economics the paradigm conception is less introduced for this reason but first of all as a practical approach that contains a basic pattern for a community of actors to successfully behave in technological practice. Actually it is important to differentiate between the overall technological paradigm conception of technological practice expressing the whole of the socio-cognitive

and practical behaviour of the half-open community, trying to find out and realise some technological functioning, and the narrower practice, being realised by technological sciences as a reconstruction of the former. The conception of the technological paradigm and paradigm change directed technological development in the technological „innovation journey" has radical political, policy and management consequences for interpreting and influencing the recently unfolding overall scientific-technological revolution.

3. **Balázs Gyenis (MTA): Do ideal gases have color?**

We note that James Clerk Maxwell's work on color vision provided him familiarity with and sensitivity to application of statistical reasoning prior to his first foray into the kinetic theory of gases in 1860. This includes an encounter with distributions outside the context of error theory, and hence understanding probabilities as being rooted in the physical phenomena was not entirely new to him when he started working on the kinetic theory. We also call attention to a potential conflation of notions of probabilistic and value independence in relevant prior works of his contemporaries and of his own (which might have impacted his adoption of the most suspect assumption of his famous Proposition IV), and we address the parallels Maxwell draws between color mixing in his three dimensional color space and addition of vectors in three dimensions in mechanics.

4. **Martha Lampland (UCSD/CEU): The illusion of abstraction**

I intend to write an article developing the idea that our usual understanding of abstraction in formalizing practices as erasing particularities is wrongheaded. I will argue that the bits and pieces of cultural knowledge and the array of social practices that shape formalizing practices live on in the discrete symbols that they have produced, i.e. in mathematical formulae, charts and graphs. If we recognize the pragmatic conditions of crafting social policy, then we must concede that formal representations are necessarily indexical, i.e. contingent on their initial formulation. I will use evidence from the history of public health, recent studies of algorithmic accountability, and my own research on wage systems.

5. **Mathieu Charbonneau (CEU): Scaling culture up and down**

Cultural transmission experiments are now mainstream experimental protocols. Whereas psychological experiments on learning typically deal with individuals solving a task on their own, transmission experiments allow participants to learn from one another. In their ecological (i.e. real world) settings, cultural phenomena are often large-scale population-level phenomena and span over several biological generations. In contrast, laboratory experiments involve much smaller artificial groups (or microsocieties) over much shorter time periods. A key challenge faced by cultural transmission experiments consists in dealing with this asymmetry: How can these experiments retain the relevant features of actual cultural populations so as to serve as proper models? My present research consists in addressing the issue of the scalability of complex populations-systems into manageable yet adequate experimental systems.

6. **Eszter Nádasi (BME): Making miracles in the operating-room or behind the microscope? Innovation and innovators in medical drama series**

Medical drama series have been popular since the 1950's and since then, the genre raised considerable academic interest – for instance because of its capacity to enhance laypeople's medical knowledge. As former studies show, fictional doctors are capable to involve positive and negative expectations towards real medical professionals. My research focuses on the fictional doctors' engagement with research and technological innovations. According to my content analysis television doctors are willing to cross boundaries in order to save their patient and gain new knowledge: they overcome legal, ethical, scientific and economic limitations. The potential effects of this representation on the audience are also analysed.

7. **Stella Kasdovasili (CEU): Becoming human-oid: artificial intelligence, race and sexuality in late capitalism**

In my paper, I will focus on the case study of Sophia from Hanson Robotics, the first ever robot to obtain citizenship from any country. By drawing on Foucault's conceptualization of race and sexuality –as biopolitical technologies that establish the biological norm—I wish to highlight how Sophia is discursively produced through these technologies and hence part of the biopolitical matrix. Through this approach, I wish to illuminate how the current discourse on artificial intelligence and humanoids is invested in promoting notions of human excellency, by reaffirming the superiority of human race and redesigning the boundaries between superrace and subrace.

8. **Mihály Héder (BME): The models of technological determinism**

In my presentation I apply a modeling-based approach to the question of whether technological determinism is a good description of the state of our civilization. The debates around technological determinism usually involve demonstrations of the various perilous ways humanity depends on technology, while the other side enumerates evidence of social construction and the possibility of controlling technology. The main argument of my presentation is that multi-agent models that include the time and resource dimensions can open up new ways for thinking about the problem. I will present the outlines of such models and simulations as well as preliminary findings gained by them.