

Why Intelligence?

Why Intelligence? The political and social roots of a scientific object

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Alexej Lochmatow, Universität Erfurt

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Von

Meike Katzek, Historisches Seminar, Universität Erfurt

The concept of intelligence holds a prominent role in recent scientific and political discourses. Issues like IQ testing, and artificial and emotional intelligence – to name a few – are frequently discussed and display attempts to grasp and define intelligence. The Erfurt conference strived to change the perspective of this discourse by asking why intelligence has advanced to this leading position in the scientific agenda. In an impressive group effort, the workshop participants explored historical, social, and political dimensions of “intelligence” in various historical applications. The papers focused mostly on science’s 19th- and 20th-century history and its politics in psychology, sociology, education, colonialism, cybernetics, and information systems. The broad international span of case studies – from central Europe to China, from the Republic of Turkey to central Africa – and the participants’ diverse affiliations, were remarkable. As a part of the program of the newly established research center Political Epistemologies of Central and Eastern Europe (PECEE), this conference established a proficient basis for further explorations of the social, political, and historical roots of the concept of intelligence’s scientific and political trajectory.

Starting, DIRK SCHUCK (Erfurt) provided insights into the early modern emergence of a “collective intelligence”. Tracing eighteenth-century elitist debates on sensibility from Montesquieu, Adam Smith to Sophie de Grouchy, Schuck demonstrated how the notion of collective sensibility as a way

to govern society spilled over into an egalitarian discourse of intelligence. Particularly in de Grouchy's rhetorical blending of concepts, Schuck located a revolutionary turn. The concepts of moral sense became the basis for formulating a method of transformative social interaction, a form of "collective intelligence". Either as a form of social control or as an egalitarian transformative power, the idea of a 'collective intelligence' was inseparable from political and scholarly agendas.

Thematically and methodologically, ALEXEJ LOCHMATOW (Erfurt) continued the exploration of the historical roots of the intelligence concept in the discourses of German 19th-century early sociological scholars. Lochmatow demonstrated how German political thinkers such as Friedrich Buchholz, Franz von Baader, and Wilhelm Wundt used "intelligence" to explain and make sense of various urgent social and political questions of their time. According to Lochmatow, the notions of "intelligence" not only reflected the social and political imaginary of the time but also changed in accordance with the development of the research questions of the emerging social sciences. In this way, much like in the early modern theories covered by Schuck, "intelligence" still played a crucial role in diverse social theories of the 19th century as a driving force in the process of social formation and organization.

Echoing the early modern discourses, LAURENS SCHLICHT (Saarbrücken) explored the link between morality and intelligence in the psychological intelligence testing of Germany's Weimar Republic educational and legal institutions. Schlicht analyzed research and intelligence testing practices with school children and criminals by German psychologists like Maria Zillig and Karl Marbe. They explicitly coupled moral virtues – such as truthfulness – to epistemic ones – such as intelligence. Here, intelligence was seen as an individualistic faculty structuring social hierarchies. By reflecting more on social and class contexts, the findings by psychologist Franziska Baumgarten broke with the earlier common sense on the strong connection between intelligence and morality. Baumgarten highlighted the social function of immoral behavior as lying and argued that it also required high intelligence. Either way, according to Schlicht, the attribution of intelligence established itself as a practice of social elites.

In her paper, ANNE D. PEITER (La Réunion) showed how the German and Belgian colonial practices of categorizing the ethnic appearance and intelligence of the Rwandan people played a significant role in the genocide of the Tutsi in 1994. Analyzing colonialists' research literature as well as visual material from the start of the 20th century, Peiter demonstrated how the Tutsi were racially marked up by antisemitic stereotypes. As "the Jews of Africa", the Tutsis were seen to be insidious and devious – echoing the antisemitic idea of "Jewish intelligence". This colonial habitual knowledge sedimented as stereotypes regarding the intelligence of the Tutsi in the local communities.

TOMÁS IRISH (Swansea) and ALEXANDER DMITRIEV (Lausanne) approached the historicizing of the intelligence concept from a social history perspective, inquiring into the early 19th-century history of the European and Ukrainian intellectual class. In his analysis of humanitarian aid after World War I – particularly "intellectual relief" for the highly educated –, Irish shows the underlying assumptions of the humanitarian actors about the meaning of intelligence as a resource. This form of special "intellectual relief" which not only fed the body but also the minds of refugee intellectuals was meant to "hold the foreign intellectual life in trust". So that their culturally significant work could be continued to sustain and reconstruct a national culture after the war ended. Here, Irish again demonstrated the close link between intelligence and the idea of nation-building. Dmitriev follows up

with the history of social change among the Ukrainian intellectual class during Ukraine's national movement from the late 19th century to the 1920s. Aiming to strengthen the group of Ukrainian intellectuals, Ukrainian scholars worked towards establishing Ukrainian language education for peasants against the restrictions of the Russian empire. Statistical practices played an important role in these pedagogical discourses as used by the couple Olexander and Sofia Rusov.

SUSANNE SCHREGEL (Copenhagen) and ANDY BYFORD (Durham) both explored historical discourses in which human intelligence was delineated from animal intelligence in the late 19th and early 20th century. Schregel demonstrated that between 1870 and 1900 in Great Britain and Germany, scientific and everyday experiences of animal observation displayed the same conviction on human and animal intelligence. They were perceived as being not so different after all and this created new norms and practices of differentiation in the form of marginal or transitional phenomena. She highlights her finding that the debates on animal intelligence were always about the role of animals and humans in "the social". Byford focused his talk on theories of chimpanzee intelligence by Soviet psychologists Lev Vygotsky, Ivan Pavlov, and Nadezhda Ladygina-Kots in the 1930s. By demonstrating how and where their theoretical strands differed and aligned on the question about the ontological boundary between apes and humans, Byford showed the role of the Soviet-specific ideological context as well as the transnational context influenced by associationist and Gestaltist positions. In this analysis of the Soviet case, it was exemplified how "intelligence" as a scientific object was constructed specifically on the human/animal boundary respectively continuum.

Exploring the historical roots of the concept of intelligence during the Chinese "self-strengthening period" from 1860 to 1895, HAILAN CHEN (Bochum) presented an etymologically informed analysis of the debates about educational reform and a changing intellectual culture in Qing China. Chen traced the concept of "intelligence" mixed in with the quickly changing meaning of "technology". The new discursive formation of "technical education" stood as a concept for a new form of training that should set up a special subject to advance Chinese technological and manufacturing independence. Chen showed how during the historical formation of an intelligence concept it was already used by educational reformer Zhang Zhidong as a powerful political claim of Chinese cultural superiority over the West.

In her paper, ŞEYMA AFACAN (Kırklareli) contributed further insights into the close connections between intelligence research and political and nation-building struggle. Afacan explored how intelligence research and testing became a popular research field of psychology in the 1930s early Republic of Turkey. Psychologists like Wilhelm Peters, Sadrettin Celal Antel, and Muzafer Sherif engaged in positivistic testing methods but also took on critical stances towards elitist or racist intelligence theories. The psychologists argued for taking into consideration the socio-economic environment of tested subjects and deduced an anti-elitist and anti-racist program from their research. Afacan showed how these scholars increasingly came into conflict with the rising movement of nationalism in the 1940s and faced accusations and suspensions for their egalitarian ideas.

AGNES BAUER (Potsdam) gave a different perspective on how social concepts like gender or class informed psychological research by historicizing the concept of "practical intelligence". Stemming from works of animal psychology, anthropology, and developmental psychology of 1917/18, the concept stabilized in the 1920s in the field of vocational psychology. Psychologists like Fritz Giese,

Walther Blumenfeld, and Vincenz Neubauer tested facets of organizational skills, technical understanding, and dexterity. These tests were informed by existing ideas of gender and cognitive capability. Practical intelligence broke up a general understanding of intelligence, offering a hierarchical division of capabilities and labor which also lent itself to national socialism ideology in the 1930s.

An important addition to the insights about the connection between biological and artificial forms of intelligence was given by MAXIM MIROSHNICHENKO (Dublin). With a close analysis of the theories about “second-order cybernetics” by Francisco Valera and Vladimir Lefebvre, Miroshnichenko demonstrated how Buddhist ideas of the selfless self or Soviet cosmism and thermodynamics influenced their respective theories about self-organizing systems. Valera’s conceptualization of autopoiesis and the immune system as a self-referential system were central to approaches of embodied cognition in the 1990s which again impacted artificial intelligence research.

Whereas Miroshnichenko argued for the philosophical, cultural, and religious sources of cybernetic theories informing current scientific discourses on biological and artificial intelligence, DINAH PFAU (Luxemburg) offered a complementary perspective on how the hardware of information technology provided models for understanding human intelligence. Pfau presented a close analysis of the research and technical work on the so-called ‘learning matrix’ by engineer, Karl Steinbruch. Understanding the learning matrix as a fluent object, Pfau offered insights into the intricacies and non-linearity of Steinbruch’s research process. An epistemology of efficiency and reliability, but also cost and benefit calculations of the companies buying the technology were formative elements of the process.

RUDOLF SEISING (Munich) completed the focus on the historicization of artificial intelligence research by exploring the “fuzziness” of the historical concepts of information and intelligence until the 20th century. Starting his talk with a broad historical overview of information technology, Seising showed how both concepts were used synonymously in early theories on communication transmission. Only research conducted during the Cold War by mathematicians and engineers like Alan Turing, Claude Shannon, and John McCarthy – partly at a summer project at Dartmouth College in 1956 – partialized the concept of intelligence more and more into aspects of learning and information that a machine could simulate.

Connected by the scholarly endeavor to explore intelligence’s roots and historical applications, the papers of the conference varied widely in their temporal and geographical focus. Still, the discussions always offered fruitful aspects of interconnections, for example when the circuit system engineer Karl Steinbruch incorporated Pavlovian ideas on reflexes into his research on the learning matrix. The variety and interconnectedness demonstrated the malleability of the intelligence concept which DIETLIND HÜCHTKER (Vienna) and ALEXEJ LOCHMATOW (Erfurt) consolidated in some final remarks. First, they reflected upon missing perspectives. The interlinking of the intelligence concept and formations of gender was expected to come to the fore more often than it did. Then, Hüchtker and Lochmatow deduced general questions and categories. Discursively being rooted in the early modern theories of communication, intelligence made a career as an active power to transform society – on an abstract intellectual level, but also as a concrete functional concept. In contexts of concrete psychological testing and colonial stereotypification, researchers wielded it as a tool to naturalize the values of a white middle class and stabilize social hierarchies. Fuzzifying borders again,

intelligence was a mode of negotiating the social through questions about animal and human intelligence. Represented as a social group of “intellectuals”, it even promised a dynamization of society. The ambivalence of the intelligence concept was most apparent when it became a tool to establish racism and at the same time a weapon against it, as Afacan demonstrated. This showed how crucial it is to differentiate intellectual perspectives and traditions of thinking in observing the complexity of the intelligence concept – the talks gave perspectives on Soviet and Western traditions, collective and individual notions, and transnational and transborder thinking. A central connection was also seen between intelligence and learning, or respectively education. In this field, historical research from the perspectives of disability studies would be a fruitful if not necessary addition to understanding intelligence’s societal formative power.

In general, connecting the talks on the formative role of intelligence for society and those on machine learning, which conceptualized intelligence clearly as a dynamic process, points to the potential of analyzing how societal hierarchies worked and how they were made and re-made through the lens of intelligence. This perspective would entail identifying different phases of modern governance in the concept of intelligence. Hüchtkers and Lochmatow’s remarks indicated further questions on how to place the concept of intelligence squarely into the project of modernity that was hinted at by the cumulation of the participants’ talks. How did intelligence legitimize theories and what role did it play for new social forms and differentiations? Further explorations by this group of scholars on the question “Why intelligence?” should be highly anticipated.

Conference overview:

Welcome speech

Bernhard Kleeberg (Erfurt) / Alexej Lochmatow (Erfurt)

Panel 1

Moderation: Jörg Hügel (Lüneburg)

Dirk Schuck (Erfurt): The Moral Intelligence of Civil Society as a Collective Endeavor: The Sentimentalist Idea of Social Control

Alexej Lochmatow (Erfurt): ‘Intelligence’ as a Form of ‘Sociological Thinking’: Nineteenth Century Concepts of Collective Knowledge

Panel 2

Moderation: Johanna Hügel (Erfurt)

Laurens Schlicht (Saarbrücken) [ONLINE]: Intelligence and Morality. On the Psychological Construction of the Interdependence of ‘Moral’ and ‘Intellectual’ Capacities, Germany, 1910–1930

Anne D. Peiter (La Réunion) [ONLINE]: On the Greatness of Intelligence and Wretchedness of Stupidity. Reflections on Ethnic Stereotypes in German and Belgian Colonial Literature and its Consequences for the Genocide against the Tutsi in 1994

Panel 3

Moderation: Jan Surman (Prag)

Tomás Irish (Swansea): Saving Intellectual Life: Humanitarianism and Reconstruction after the First World War

Alexander Dmitriev (Lausanne): Literacy, Reading, Intelligence: Quantitative Dimensions of the Ukrainian National Question in the Late Nineteenth Century and the First Decades of the Twentieth Century

Panel 4

Moderation: Bernhard Kleeberg (Erfurt)

Susanne Schregel (Copenhagen): Distinguishing Animals and Humans. Perspectives on Animal Intelligence (Great Britain, Germany, 1870-1900)

Andy Byford (Durham): Intelligence on the Human-Animal Boundary in the Early 1930s' Soviet Union

Panel 1

Moderation: Karin Reichenbach (Leipzig)

Hailian Chen (Bochum): Approaching Human Capital: From a German Missionary Ernst Faber (1839–1899) to the Regrouping of Intellectuals and Skillful Persons in Qing China's Educational Reforms

Şeyma Afacan (Kirkklareli): If Turks were Smart indeed? Class, Race, and Intelligence Testing in the early Republic of Turkey

Panel 2

Moderation: Verena Lehmbruck (Erfurt)

Nora Binder (Konstanz): From IQ to Competence as a Key to a „Successful Life” (canceled)

Agnes Bauer (Potsdam): Facets of Practical Intelligence in Discourses of German Vocational Psychology, 1920s-1960s

Panel 3

Moderation: Serhii Zhabin (Kyiv)

Maxim Miroshnichenko (Dublin): The Metabolic Recursivity: Reflexion in Non-Neuromimetic Machines?

Dinah Pfau (Luxemburg): Steinbuch's Matrices: Epistemology of an Artificial Neural Network

Panel 4

Moderation: Bernhard Kleeberg (Erfurt)

Rudolf Seising (Munich): Intelligence and Information: A Historical Conceptualisation

Final Discussion

Moderation: Dietlind Hüchtker (Vienna) / Alexej Lochmatow (Erfurt)

Zitation

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