



Research Project and Research Training Group

**Technical College of Dresden under National Socialism:
Transformations of Knowledge and Science in the 20th Century**

Concept paper, as of 15 June 2023

The project examines the history of *Technische Hochschule Dresden* (Technical College of Dresden, TH Dresden) against the backdrop of political changes and interventions in academic life during the 20th century. Emphasis will be placed on the development of knowledge and resources for technology and research. The application and politicization of knowledge and science will be analyzed, particularly regarding the political and social transformations instigated by National Socialism, including its preconditions and consequences. Empirically, the focus is on knowledge practices and their interactions with the power relations and practices of authoritarian rule in politics, the economy, society, and culture. Changes taking place at the institutional level and those affecting staff are also examined. In individual subprojects, different complementary methodological approaches will be applied, with gender and diversity aspects considered. The scientific and cultural techniques and the social forms of action through which scholars and networks in specific places and institutions produced, circulated, and applied scientific knowledge will be examined, as will knowledge practices that were marginalized, suppressed, or forgotten.

The objective is to analyze how TH Dresden became intertwined with politics and society during the National Socialist dictatorship and to understand how research practices and the way they were taught, as well as how socio-professional networks at the school changed or were maintained across ruptures in the political and social system. To identify such ruptures, continuities, and particular or repeated acts of adaptation and achievement, and even instances of resistance, the project will examine knowledge practices in their interactions with political disruptions and system upheavals. For this purpose, the traditional areas of teaching and research will be analyzed, as will those that were newly introduced, abolished, or outsourced during the periods of upheaval. Questions will be posed regarding how technical universities were politically ruled, and to what extent they made their own interests compatible with or positioned them against those of the state and the controlled economy. Also, to what extent did political logic hinder the search for scientific knowledge? Analysis will be based on a praxeological concept of authority, which allows us to reconstruct intersectional mechanisms of various dimensions of inequality, such as nationality, “race” in the National Socialist under-

standing of the term, class, status, and gender. At the same time, the project will compare elite continuity or change at the rupture points of German history, as is suggested in current research discussion on the "Hochschulumbau Ost," the transformation of universities in the former GDR. Similarly, the project will investigate knowledge continuities and upheavals, particularly regarding their institutional implications at TH Dresden.

The research project is divided into three work areas: "Knowledge Networks," "Knowledge Applications," and "Knowledge Locations."

Knowledge Networks

The first area, "Knowledge Networks," will focus on the genesis, specific contexts of use, and interconnections of knowledge practices from a prosopographic perspective. To this end, it will also make use of tools employed in the digital humanities and in data mining, which will be refined and developed in a project-specific manner in collaboration with the Saxon State Library – Dresden State and University Library. The basis for this approach – and the resulting product – will be a database that clusters knowledge in terms of staff, topic, subject, and location and that tracks their use and citation. This will facilitate tracing the dissemination and cancellation of knowledge transfers and identifying the formation of personnel and generational clusters and networks that will become both the basis and the starting point for further analysis.

Based on the technology used by the Virtual Archive of the Saxon Academy of Sciences in Leipzig, the first step will be to merge the existing personnel databases of TUD Technical University of Dresden. This includes the catalog of professors and various documents on students and doctoral candidates. While evaluating these, continuities and discontinuities – for example, among Jewish scientists and students – will, to varying degrees, be identified, appraised, and potentially assigned to individual departments. The diverse fields of work of the projects and research conducted at TH Dresden will be identified with the help of databases of publications, personnel, and patents, as well as other sources, such as the *Deutsche Forschungsgemeinschaft* (DFG, German Research Foundation) catalog of third-party funding applications.

The issue to be determined is which topics were researched particularly intensively and either popularized or marginalized. Collaborations and public lectures regarding these topics, as well as the thematic shifts that occurred during the system changes, will also be identified. Finally, in this area, it will be possible to acquire knowledge about the financing of research activities, and – via patents – to gain precise insights into exploitation and utilization partnerships, for example with the arms industry.

Finally, by building on the identified names and publication titles, large literary corpora – specialist journals as well as local, national, and international press – will be evaluated digitally. The purpose will be to understand how knowledge and resources originating from TH Dresden were received by the specialist community, in the context of industrial applications, and by the local public. Who referred to the research results of Dresden scientists, and how and where these results were used for further research and production, will be examined. Likewise of interest is where TH Dresden lost connection to regional and national communication and knowledge spaces, or dropped out of knowledge and citation networks with, for example, scientists forced out of their posts. With the data obtained, it will also be possible to make the dissemination of scientific publications retrospectively visible in the form of an indicator figure and to understand which social profile – for example, gender, age, religious denomination, and party membership – was reflected in the generation of knowledge. Also to be included is analysis of teaching profiles and lecture lists as well as the participation of students at different levels, which contributed to significant redefinitions of knowledge, research, and application priorities. The diffusion of knowledge stocks produced or discussed at TH Dresden in spaces for scientific discourse will be taken into account, as will the popularization of knowledge within urban society, political networks, and the broader public.

Possible topics for dissertations in this area are analyses of networks at a biographical level, applying, among other things, exemplary (retrospective) impact analysis, and/or placing a stronger focus on networks of entire disciplines, with a view to the broad social impacts and networks outside academia.

The objective of the area “Knowledge Networks,” then, is to reconstruct the dissemination and distribution paths of the knowledge produced at TH Dresden in order to understand its contribution to the dynamic development of power constellations and practices at the university as well as in society as a whole. The initial consideration is that this will form the basis upon which assertions about the role of the university, especially under National Socialism but also during other political system changes, can be refined and substantiated.

Knowledge Applications

The second area, “Knowledge Applications,” will examine in individual case studies the specific circumstances of the application of knowledge practices that were politicized at TH Dresden. The focus will be on the genuine contexts of use in National Socialism. At the same time, looking at the transformation phases will allow the identification of persistences, path dependencies, and ruptures.

The development of technical colleges in Germany was directly linked to the demand made by the state, society, and the military for knowledge relevant for

armaments and war and the promotion of such knowledge. This development began in the German Empire, intensified during the First World War, persisted throughout the Weimar Republic, reached its peak under National Socialism, and continued in the GDR. The Dresden constellation therefore makes it possible to trace the continuities and innovations in the Soviet Occupation Zone – one example being the Soviet Military Administration’s knowledge practices relevant to armaments – and in the GDR, and, at the same time, to identify more precisely the different tableaux of hegemonic and marginalized fields of knowledge in different political systems. However, the contexts of applications that were of indirect significance for the war preparations that began with the Nazi dictatorship – by providing actionable knowledge for its economic and educational policies – must also be taken into account and understood in their personal and political dimensions.

Direct and indirect research activities relevant to armaments and war covered everything from forestry, the chemical cluster of TH Dresden, regional industry and the military, the procurement of raw materials, and automotive engineering for “self-sufficiency” and warfare. Also included were genetics and alternative medical concepts such as naturopathy, and teacher training, where TH Dresden has a long tradition in the vocational branch. Here, the project offers the opportunity to look at path dependencies of Saxon industrialization – such as in vehicle and machine construction, the textile, food, and chemical industries, as well as precision engineering and optics – and to identify interconnections between the economy, science, and politics from a long-term perspective through the TH Dresden “prism.” In this context, the role of foundations, sponsoring societies, and honorary doctorates for the mutual translation of interests will also be examined. In addition, research that was relevant neither to the military nor to the system in any way and that was indifferent to the regime’s goals or even disregarded them should also be taken into account.

Alongside the dissemination, application, and popularization of knowledge, it will be possible to observe how knowledge was concealed and shielded. The logics of self-sufficiency stood in stark contrast to the scientific logic of discourse and productive scientific dispute. How did this tension shape the “production of knowledge” at TH Dresden? Where and how did it lead to conflicts or coalitions between science and politics? Who was involved, and what were their interests?

The thesis of a “self-mobilization” of the sciences under National Socialism has been confirmed in contemporary historical research and extended by the concept of politics and science as “resources for each other.” Here, the question arises as to whether TH Dresden should be assessed as a “normal enterprise” or as a university paradigmatically serving National Socialism. The development of specific subjects, departments, and individuals as well as the role of the university senate and the relationship to the ministries need to be explored. At this point, the area “Knowledge Applications” intersects productively with the work area “Knowledge

Networks” since the database developed in parallel will be fundamental in answering such questions. Conversely, findings from the area “Knowledge Applications” can be fed into the database. Only by using such a multi-layered and complex knowledge base will it be possible to answer the central question of what contributions to the National Socialist policy of exclusion and extermination TH Dresden and its personnel were responsible for.

Knowledge Locations

The third research area, “Knowledge Locations,” will investigate the attachment of knowledge practices to locations and the diffusion of knowledge. Practices and rituals of knowledge acquisition and transmission will be analyzed by looking at specific places and media. This approach assumes that knowledge systems are structured by the material constitution of knowledge acquisition and transmission. Scientific collections and the library of TH Dresden can be described as such places and, therefore, as possible topics for dissertations. Both functioned as central infrastructure facilities for research and teaching and, as such, played an important role in the internal power structure of TH Dresden, while at the same time influencing the city’s public sphere.

Publications, newspapers, lectures, and discussions are central media. Institutional affiliation and financial endowments allowing procurement of these resources shaped the university’s profile. The acquisition and selection strategies of the collections and the library included or excluded knowledge and thus defined the knowledge corpora. Therefore, they were closely and directly related to the reproduction of power relations and practices. Access to resources determined educational and career opportunities, and the places mentioned above were used to fundamentally define the realm of time-bound, valid knowledge.

As an institution, but also through its members, TH Dresden was involved in numerous ways in the popular transmission of scientific and technical knowledge. For example, the Botanical Garden, the Natural Science Society “ISIS” and other associations, the planetarium, the Mineralogical Museum, and the Hygiene Museum can be understood as teaching events open to urban society. In addition to the transfer of knowledge in the narrower sense and the mobilization or suppression of knowledge for society, these were places and opportunities for negotiating images of technology and role models, the politicization of knowledge, self-representation, and the generation of meaning. Undoubtedly, TH Dresden had an impact on the city – but what was its role within the city? How was it perceived by society across the changes in political power relations? What popularization paths and strategies were successful?

With these three work areas, the project will enable researchers, Dresden’s urban society, as well as the wider and international scientific community and a broader

public to place TH Dresden in the complex web of history of science and society under the Nazi dictatorship, including its preconditions and lasting consequences. It will contribute to an exemplary understanding of processes of instrumentalization, "self-mobilization," and resistance of science in the context of autocratic regimes. By doing so, the project will connect to international research in the history of higher education and science, the history of National Socialism, contemporary history, and the history of transformation. It will also link to the relevant history of the country, technology, the media, and economics and expand these various fields of research through adopting a consistent perspective in terms of the history of knowledge, a perspective enriched by new methods in the digital humanities.