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EXPERT CULTURES IN CENTRAL EASTERN EUROPE

THE INTERNATIONALIZATION OF KNOWLEDGE AND THE TRANSFORMATION OF NATION STATES SINCE WORLD WAR I – INTRODUCTION*

With good reason, the twentieth century can be described as the century of the expert. With the breakthrough of science and technology, those who commanded the latest knowledge gained in importance and societal standing. After all, the knowledge of experts was part and parcel of the secular process that has been described as the ascent of territoriality.[1] This process was strongly connected – though, of course, not limited – to state activity in ever more areas of life, which created ever more fields of activity for specially trained experts and in many ways created completely new fields of knowledge and expertise.[2] However, often for the same reasons that brought them into new bargaining positions in the first place, experts were controlled, forced or persecuted in the long twentieth century. The great caesurae of this century, in particular the two world wars, reconfigured established fields of expertise while at the same time opening up completely new opportunities for experts.

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[1] Die Ordnung der Moderne. Social engineering im 20. Jahr-hundert, ed. by THOMAS ETZEMÜLLER, Bielefeld 2009; LUTZ RAPHAEL, Die Verwissenschaftlichung des Sozialen als methodische und konzeptionelle Herausforderung für eine Sozialgeschichte des 20. Jahrhunderts, in: Geschichte und Gesellschaft 22 (1996), p. 165-193; CHARLES S. MAIER, Consigning the Twentieth Century to History. Alternative Narratives for the Modern Era, in: American Historcial Review 105 (2000), p. 807-831.

[2] JAMES C. SCOTT, Seeing like a state. How certain schemes to improve the human condition have failed, New Haven 1998.

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This volume conceives the expert not as a new phenomenon, but as a specific type that came to evolve in the late nineteenth century and previously only existed in a much smaller number of professional fields.[3] In the course of the growing scientification of the economy, society and increasingly also politics since the end of the nineteenth century, the bearers – or at least the harbingers – of new knowledge immensely gained in significance. This was not least due to the fact that under increasingly complex conditions, policymakers and other responsible persons wanted to back up their decisions with qualified expert opinions.

By experts we mean professionally qualified individuals who were recognized as such by their peers and/or by a wider public (see the contribution by Eva Horn in this volume). For this reason, i.e. the strong interdependence between experts and their environments, we refer to 'expert cultures' in the title. The status of the expert is not necessarily fixed; rather, it is highly dependent on the currently dominant economic, social and political circumstances.[4] Moreover, it is always a result of cultural ascriptions and communicative negotiations. This means that in examining experts, the methodological possibilities of a historical research enhanced by cultural considerations are particularly rewarding. While this complex interrelation offers heuristic chances, it also means that to a certain degree we have to accept the ambiguity of the term 'expert'.

The rise of the expert was, and still is, an international phenomenon. Internationality often even serves as evidence of the expert status. The attainment of the status and the activities of experts were also, however, always to a large degree dependent on and linked to their respective nation states. It is the fate of the expert to operate somewhere inbetween a universalist understanding of his or her expertise in science and/or technology and the politically or culturally defined requirements of the state or nation.

Using case studies of particularly telling examples, this volume first of all strives to reconsider the history of experts in two respects: It examines the relationship between state, experts and nation, and in doing so tries to reconsider the historical and political caesurae that shaped Europe in the nineteenth and particularly the twentieth century. Second, it will take into consideration a part of the European continent that has so far often not been

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[3] For a long-term perspective on expertise, see JAKOB VOGEL, Ein schillerndes Kristall. Eine Wissensgeschichte des Salzes zwischen Früher Neuzeit und Moderne, Köln 2008; Figurationen des Experten. Ambivalenzen der wissenschaftlichen Expertise im ausgehenden 18. und frühen 19. Jahrhundert, ed. by ERIC J. ENGSTROM et al., Frankfurt am Main 2005.

[4] H. M. COLLINS, ROBERT EVANS, Rethinking expertise, Bristol 2007; GABRIELE GOETTLE, Experten, Frankfurt am Main 2004; STAN J. KNAPP, Analyzing Narratives of Expertise. Toward the Development of a Burkeian Pentadic Scheme, in: The Sociological Quarterly 40/4 (1999), p. 587-612.

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sufficiently considered in the dominant master narratives. This focus is not primarily intended to 'complete the picture', but rather to show that Central and Eastern Europe in many ways offer highly relevant insights for our understanding of the interconnections between state, nation and experts.[5]

Despite the rupture brought about by World War I and the consequent interruption of exchange between experts and scientists,[6] the ensuing nationalization of communication spaces and the expulsion of experts from the defeated states from professional associations, one can observe a remarkable increase in professional communication during the interwar period. In older as well as newly created organizations – for example the League of Nations – new fora were established that were driven by the desire to keep up with the ever accelerating pace of technological development.[7] In this context, we can discern a tense relationship between the nation states and 'their' experts, whose knowledge was on the one hand generated and proliferated through transnational exchange, but on the other supposed to serve the progressivist strivings of the national society.

These questions are highly relevant with regard to the newly formed states of Central Eastern Europe, which in the process of forming and reorganizing their administrations and institutions desperately needed expert knowledge and invested significant resources into the training of new functional elites after World War I. After the breakdown of the dynastic empires, the formation of new states coincided with a phase of rapid change and high social mobility.[8] Especially the exchange of functional

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[5] So far there are only few studies on the topic with a focus on Central Eastern Europe: Elitenwanderung und Wissenstransfer im 19. und 20. Jahrhundert, ed. by DITTMAR DAHLMANN/ REINHOLD REITH, Essen 2008; Professionen im modernen Osteuropa, ed. by CHARLES MCCLELLAND/ STEPHAN MERL/ HANNES SIEGRIST, Berlin 1995; with a broader focus: Technological Innovation and Transnational Networks. Europe between the Wars, ed. by MARTIN KOHLRAUSCH/ DIETRICH BEYRAU, Special Issue of Journal of Modern European History 6/2 (2008); PIERRE-YVES SAUNIER, Sketches from the Urban Internationale, 1910–50. Voluntary Associations, International Institutions and US Philanthropic Foundations, in: International Journal of Urban and Regional Research 25/2 (2001), p. 380-403.

[6] For examples from the milieu of European universities, see TRUDE MAURER, Kollegen – Kommilitonen – Kämpfer. Europäische Universitäten im Ersten Weltkrieg, Stuttgart 2006.

[7] PATRICIA CLAVIN/ JENS-WILHELM WESSELS, Transnationalism and the League of Nations. Understanding the Work of Its Economic and Financial Organisation, in: Contemporary European History 14 (1995), p. 465-492.

[8] For the 1920s we can observe a knowledge transfer from east to west quite different to the one during the Cold War. As a result of the Bolshevik Revolution and the Civil War, several thousand 'Whites' escaped from Russia to Western Europe, but also to Czechoslovakia, Yugoslavia and Bulgaria. Among these refugees was a significant number of scientists, specialists and experts these countries wanted to profit from. The so-called Russian Assistance Action (*Ruská pomocná akce*) organized by the Czechoslovak government was the

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elites after 1918 deserves attention in this context (see the contribution by Ingo Loose).

Quite differently, but at second glance in many ways that paralleled and built on post-World War I developments, after 1945 Central Eastern Europe again witnessed a massive elite exchange, this time even more politically connoted and dominated by direct state intervention. In light of the knowledge transfer within the 'Eastern bloc', but also between the two blocs, which we assume never ceased entirely, it is important to also include the period after World War II in our temporal focus.

The term 'Central Eastern Europe' in this context refers to a historical European region that was always open towards its neighbouring regions.[9] Its core lies between the cities Prague, Krakow, Lvov and Budapest. It is a region that – depending on the historical epoch under investigation – expands or contracts in the eye of the cultural, historical or sociological observer. For the twentieth century, the following structural characteristics are particularly relevant for this region:

1. The empires imposed homogenizing structures up to World War I, which entailed a more or less 'forced' internationalization. This phenomenon repeated itself under completely new auspices, but in some respects in a similar form, after World War II as a consequence of the Sovietization of the region.
2. Between these two chapters, during the interwar years, a phase of new state foundations set in during which states attempted to consolidate as *nation* states despite significant minority populations.
3. More or less the entire region was extremely exposed to the devastations and genocidal politics of Nazi Germany between 1939 and 1945. Timothy Snyder has recently alerted us to the somewhat forgotten fact that the mass killings of the Germans – but also the Soviets – in the

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most important programme to attract Russian refugees with the promise of generous help and at the same time to instrumentalize their knowledge for Czechoslovak nation building. See ELENA V. CHINYAEVA, Russians outside Russia. The Émigré Community in Czechoslovakia 1918-1938, München 2001.

[9] Under Eastern eyes. A comparative introduction to East European travel writing on Europe, ed. by WENDY BRACEWELL, Budapest 2008; JOACHIM VON PUTTKAMER, Ostmitteleuropa im 19. und 20. Jahrhundert, München 2010; JOACHIM BAHLCKE, Ostmitteleuropa, in: Studienhandbuch Östliches Europa, vol. 1, Geschichte Ostmittel- und Südosteuropas, ed. by HARALD ROTH, 2nd revised edition, Köln 2009, p. 59-72. For an overview over alternative terminologies such as 'East Central Europe' for the region under focus, see RUDOLF JAWORSKI, Zentraleuropa – Mitteleuropa – Ostmitteleuropa. Zur Definitionsproblematik einer Großregion, in: newsletter Moderne 2 (1999) p. 2-4; Forum 'Zur Europäizität des östlichen Europa', ed. by STEFAN TROEBST, in: H-Soz-U-Kult, 29 May-7 June 2006, http://hsozkult.geschichte.huberlin.de/index.asp?id=744&pn=texte, accessed 29 April 2010.

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1930s and 1940s to a large degree took place in the Eastern parts of Europe between Germany and Russia: in Belarus, Ukraine, Poland and the Baltic states.[10]

4. The specific social stratification and economic outlook with a dominant landed nobility played an important role. This nobility, however, was partly able to modernize itself and also to contribute to the modernization and industrialization of the region in the nineteenth and early twentieth century. In this process, the Central Eastern European nobility did not simply replace a non-existing or weakly developed middle class, a 'lack' when compared to the Western benchmark in interpretations informed by the modernization theory that hardly ever focuses on other elite formations. Rather, the region's specific and diversified elites of noble and 'bourgeois' provenance came together to negotiate their interests in a way that spawned compromises between the older elites and the newly formed and upcoming ones.[11]

Thus, we explicitly do not want to take up the old trope of an alleged backwardness of Eastern Europe, which is prevalent in so much of the older literature on the region.[12] Shmuel Eisenstadt's concept of 'multiple modernities' is a much more fruitful approach in this respect.[13] However, it is also important not to embark on a radically cultural relativist course. Rather, we must trace individual models of modernization in Central Eastern Europe. By pointing out the region's specific modernization experiences – with all their references to current transformation processes – the still dominant conception that the eastern part of the continent is merely 'catching up' to Western levels of development can effectively be disproved. Especially the region's communication ties to its western as well as eastern neighbouring regions illustrate its significance in a broader European context.

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[10] TIMOTHY SNYDER, Holocaust. The ignored reality, http://www.eurozine.com/articles/2009-06-25-snyder-en.html, accessed 25 April 2010 (first published in the New York Review of Books, 16 July 2009).

[11] KARSTEN HOLSTE/ DIETLIND HÜCHTKER/ MICHAEL G. MÜLLER, Aufsteigen und Obenbleiben in europäischen Gesellschaften des 19. Jahrhunderts. Akteure – Arenen – Aushandlungsprozesse, in: Aufsteigen und Obenbleiben in europäischen Gesellschaften des 19. Jahrhunderts. Akteure – Arenen – Aushandlungsprozesse, ed. by KARSTEN HOLSTE/ DIETLIND HÜCHTKER/ MICHAEL G. MÜLLER, Berlin 2009, p. 9-19, p. 12-14.

[12] MANFRED HILDERMEIER, Das Privileg der Rückständigkeit. Anmerkungen zum Wandel einer Interpretationsfigur der neueren russischen Geschichte, in: Historische Zeitschrift 244 (1987), p. 557-603.

[13] SHMUEL N. EISENSTADT, Multiple Modernities, in: Daedalus 129 (2000), p. 1-29.

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In this sense the essays in this volume also contribute to reconsidering European integration – understood in the wider sense of the word.[14] Moreover, in choosing a long-term perspective that bridges the established political caesurae of wars and system changes, this volume wants to contribute to current attempts to establish a chronological narration more adequate to the phenomena in question.[15] Obviously, when considering a region that stretches from the Elbe River to the Ural Mountains and covering some eighty years, many aspects have to be left out. This is particularly true for the transformations that shaped the region from 1989 on, which will not be addressed at all. Diverse as the approaches are, there is a set of common questions guiding all of the case studies in this volume. Three perspectives are briefly sketched below.

1. Technocratic Thinking and Technological Expertise

The popularity of technocratic solutions was one of the few common features of European politics in the interwar period.[16] This trend went far beyond the U.S.A., but was strongly indebted to them. The transfer of technocratic notions was both intellectual and very practical, carried out through the intense traffic of expert groups studying preferably U.S.-examples (see the contribution by Valentina Fava). Technocratic thinking thus almost necessarily carried connotations of Americanism.[17] It appears that

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[14] THOMAS J. MISA/ JOHAN SCHOT, Inventing Europe. Technology and the Hidden Integration of Europe, in: History and Technology 21/1 (2005), p. 1-20.

[15] MARGIT SZÖLLÖSI-JANZE, Wissensgesellschaft. Ein neues Konzept zur Erschließung der deutsch-deutschen Zeitgeschichte, in: Koordinaten deutscher Geschichte in der Epoche des Ost-West-Konflikts, ed. by HANS GÜNTER HOCKERTS, München 2004, p. 276-305; JAKOB VOGEL, Von der Wissenschafts- zur Wissensgeschichte. Für eine Historisierung der 'Wissensgesellschaft', in: Geschichte und Gesellschaft 30 (2004), p. 639-660.

[16] CHARLES S. MAIER, Between Taylorism and Technocracy. European Ideologies and the Vision of Industrial Productivity in the 1920's, in: Journal of Contemporary History 5 (1970), p. 27-61. For the case of Germany, see STEFAN WILLEKE, Die Technokratiebewegung in Deutschland zwischen den Weltkriegen. Eine vergleichende Analyse, Frankfurt am Main 1995; for the Soviet Union, see KENDALL E. BAILES, The American Connection. Ideology and the Transfer of American Technology to the Soviet Union, 1917-1941, in: Comparative Studies in Society and History 23 (1981), p. 421-448; MELANIE TATUR, 'Wissenschaftliche Arbeitsorganisation'. Zur Rezeption des Taylorismus in der Sowjetunion, in: Jahrbücher für Geschichte Osteuropas 25/1 (1977), p. 34-51; MELANIE TATUR, 'Wissenschaftliche Arbeitsorganisation'. Arbeitswissenschaften und Arbeitsorganisation in der Sowjetunion 1921-1935, Wiesbaden 1979.

[17] DANIEL T. RODGERS, Atlantic crossings. Social politics in a progressive age. Cambridge, MA 1998, p. 371-372.

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the term's success – and 'transferability' – was not least due to the fact that it was both abstract and blurred, as well as strongly connected to the somewhat narrower – and equally successful – concepts of rationalization, Taylorism and Fordism.[18]

The well-studied advance of technocratic concepts had a number of reasons. Such concepts promised to merge the immense scientific and economic progress with politics, thus also modernizing the state and reconfiguring the relationship between state and society. In an ideal form, a technocracy would emerge freed as much of all ideology as of economic and bureaucratic inefficiencies. However, utopian as such visions remained throughout, they cannot be confined to mere ideas. Particularly in the wake of Europe's political and economic crisis after World War I,[19] a technocratic transformation of state and economy promised an alternative model to the rising tides of Fascism and Communism while leaving the basic social order intact. Therefore, the *nébuleuse réformatrice* grew stronger and spread almost entirely across Western Europe. As Kenneth Bertrams stresses, referring to earlier findings of Charles S. Maier, technocratic models favoured a corporatist organization of politics with different forms of bargaining power. In any case, this corporatism meant the 'twilight of sovereignty', generally involving a weakened parliament and access to executive power for a new class of experts.

As Bertrams shows, there was not *the* one Western model. Indeed, there is good reason to assume that the success of technocratic concepts not only included the countries of Central Eastern Europe, but was particularly pronounced in the region after 1918, for specific reasons and with unique outcomes. Moreover, though popular in parliamentarian democracies, different currents of technocratic thinking were also an integral part of dictatorial and totalitarian systems.[20] With regard to the region in question, at least three aspects should be mentioned:

1. The potential win-win-situation of the state profiting from scientific and technical expertise and technical experts being raised in their status and gaining new positions of influence in 'expert-based system[s]' (Bertrams) was even more explicit than in many countries in Western Europe or elsewhere. The examples presented in the contributions by Stefan Rohdewald

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[18] MARY NOLAN, Visions of Modernity. American Business and the Modernization of Germany, New York 1994; RUSS BANHAM, The Ford century. Ford Motor Company and the innovations that shaped the world, New York 2002; Zukunft aus Amerika. Fordismus in der Zwischenkriegszeit, ed. by REGINA BITTNER, Dessau 1995.

[19] GUNTHER MAI, Politische Krise und Rationalisierungsdiskurs in den zwanziger Jahren, in: Technikgeschichte 62 (1995) p. 317-332.

[20] WOLFGANG SCHIVELBUSCH, Three New Deals, New York 2006.

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and Elisabeth van Meer provide ample evidence for the strong need of the often newly established and almost always contested states of the region to prove their legitimacy and to successfully establish and maintain their new institutions by drawing heavily on technical expertise (see also Loose). This, on the other hand, opened up immense opportunities for the rising class of engineers and related technical experts who, due to geography or more often their national backgrounds, had been in second-rate positions in the empires that dominated the region before 1918.[21] It was on these technical experts to stage the 'great leap forward' which particularly regions dominated by agriculture and weakly developed industry dreamed of. In addition, these experts profited from the significant symbolic relevance technology and science attained for the states in question.[22] This also implied the reconfiguration of professional identities, with the engineer assuming a key role.[23]

2. It was also for this reason that in a number of areas the link between nation and expertise was more pronounced than – generally speaking – in Western Europe. Nationalizing states such as Czechoslovakia or Poland bore the burden of heavy political cleavages and conflicts with national minorities, which were primarily conceptualized as problematic – if not as outright threats – regardless of whether they actually engaged in subversive activities against the so-called 'core nation', defined in ethno-cultural terms,[24] or not. It thus seemed particularly advisable for these countries to embark on the allegedly neutral vision of a state organized along technocratic lines. The best-known example is the *Sanacja* (sanitation, healing, national cleansing) regime established in Poland in 1926, which already in its name alluded to the notion of a cure for politics and society through

[21] On the nationalities and minority politics in the multinational Empires before World War I, see GERALD STOURZH, Die Gleichberechtigung der Nationalitäten in der Verfassung und Verwaltung Österreichs 1848–1918, Wien 1985; Nationale Minderheiten und staatliche Minderheitenpolitik in Deutschland im 19. Jahrhundert, ed. by HANS HENNING HAHN/ PETER KUNZE, Berlin 1999; ANDREAS KAPPELER, Rußland als Vielvölkerreich. Entstehung – Geschichte – Zerfall, München 2001; ALEXEI MILLER, The Romanov empire and nationalism. Essays in the methodology of historical research, Budapest 2008.

[22] For the symbolic role of technology, see BERNHARD RIEGER, Technology and the Culture of Modernity in Britain and Germany. 1890–1945, Cambridge 2005; also Technische Intelligenz und 'Kulturfaktor Technik'. Kulturvorstellungen von Technikern und Ingenieuren zwischen Kaiserreich und früher Bundesrepublik Deutschland, ed. by BURKHARD DIETZ, MICHAEL FESSNER, HELMUT MAIER, Münster 1996.

[23] The Quest for a Professional Identity. Engineers between Training and Action, ed. by MARIA PAULA DIOGO et al., Lisboa 2009.

[24] See ROGERS BRUBAKER, Accidental Diasporas and external 'Homelands' in Central and Eastern Europe. Past and Present, in: Transnationalism. Diasporas and the advent of a new (dis)order, ed. by ELIEZER BEN-RAFAEL, Leiden 2009, p. 461-482.

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'reasonable' reform inspired by technocratic models.[25] *Sanacja* meant, amongst other things, a healthy cleansing and professionalization of the state apparatus and its infusion with technocratic-managerial ideas. Not least of all, the appointment of the chemist Ignacy Mościcki as president of Poland symbolized this. One of the biggest economic projects the *Sanacja* regime embarked on was the attempt to build the so-called Central Industrial Region (COP), initiated by the Polish chemist, economist, Deputy Prime Minister, Minister of the Treasury and builder of the port of Gdynia, Eugeniusz Kwiatkowski. Its goal was to create a heavy industry centre in the middle of the country, as far away as possible from any borders, to strengthen the Polish economy and to reduce unemployment. Its implementation was accompanied by strong national rhetoric.[26] Polish concepts of combining science, government and new means of communication were closely related to the earlier American and Czech examples. The transfer of knowledge therefore functioned by adjusting foreign concepts to the local conditions of the Second Republic of Poland. Rohdewald shows how the influential Polish technocratic thinker Tadeusz Dzieduszycki, who at least for a certain time was close to the regime, heavily drew on the specific Polish situation of having been 'colonized', and after 1918 aspiring to become a colonizing nation – or at least a significant player in the concert of powers – itself. Here, the transfer of technology figured as an ideological project to achieve hegemony in the region through the re-export of imported technology and management methods. Technocratic models were widely seen as the tool to achieve this ambitious goal. Although developed in close exchange with experts from abroad at international conferences, such models could thus become heavily nationalized. This was not only true for Poland, but also, and particularly, for the 'Czechoslovak model' of incorporating Taylorism and Fordism. Czechoslovakia was a forerunner of technocratic thinking in the region, if not in Europe (see Rohdewald and van Meer). In her contribution, van Meer stresses the anti-German impetus of the development of a 'Czech' technology and science. The professionalization of technical experts and the development of a national consciousness thus went hand in hand already in the nineteenth century.

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[25] JOSEPH ROTHSCHILD, East Central Europe between the Two World Wars, Washington, D.C. 1974, p. 58.

[26] See for example DIONIZY GARBACZ, Eugeniusz Kwiatkowski w Stalowej Woli, 2nd edition, Stalowa Wola 2002; Centralny Okręg Przemysłowy. Infrastruktura – produkcja – procesy miastotwórcze, ed. by SEBASTIAN PIĄTKOWSKI, Radom 2005; see also MELCHIOR WAŃKOWICZ, Sztafeta, Warszawa 1939, and MELCHIOR WAŃKOWICZ, C. O. P. Ognisko siły. Centralny Okręg Przemysłowy, Warszawa 1938.

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3. After 1918, 'scientific management' was seen as a strategy to develop the whole region of Central and Eastern Europe and to give the new state Czechoslovakia both a modern identity (the 'Yankee of Europe') and legitimacy (see Fava). The combination of technocratic and national rhetoric proved extremely effective to convince decision makers. Whereas the loyalty of Italian Fiat experts – whom Fava compares with Škoda experts – was to their company, Czechoslovak engineers regarded Americanization and 'Scientific Management' as a means of nation building.

The – at first glance – obvious connection between scientific and economic experts and the state was, however, not an easy one. Much more so than – generally – in Western Europe or the United States, loyalty became a crucial and highly contested issue in the complicated shift from empire to independent states, which more often than not did not coincide with nations in the stricter sense of the word. While the empires, though far from being tolerant entities, defined their demands for loyalty rather negatively and passively (the more or less pronounced oppression of emancipatory movements), the new states demanded a more positive and active commitment. New chances for experts were thus often thwarted by the immense pressure exerted by the state, and sometimes also by society (see the contribution by Dagmara Jajeśniak-Quast).[27]

After the establishment of socialist regimes and planned economies in most of Central and Eastern Europe – Fava shows this for Czechoslovakia – the link between technological progress and national ambitions no longer worked the way it had before the war. The Czechoslovak engineers, who still travelled to the United States in the late 1940s, were well aware of the lack of flexibility at home which would no longer allow the transfer of adapted models. Fordist and Taylorist models now entered Czechoslovakia – like the other countries in the region – in their Soviet current. Moreover, they were also caught in the paradoxical effect that haunted the Soviet Union already before World War II: The Eastern bloc tried to build an economic system distinct from the West, but implicitly accepted Western economic modernism as the benchmark to compete with.[28]

While in an abstract sense technocratic models fell on an almost ideal ground in the Soviet system, which itself claimed to be based on scientific

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[27] KATRIN STEFFEN/ MARTIN KOHLRAUSCH, The Limits and Merits of Internationalism. Experts, the State and the International Community in Poland in the First Half of the Twentieth Century, in: European Review of History 16/5 (2009), p. 715-737.

[28] GYÖRGI PÉTERI, Nylon Curtain. Transnational and Transsystemic Tendencies in the Cultural Life of State-Socialist Russia and East-Central Europe, in: Slavonica 10 (2004), p. 113-123, p. 114; DAVID CROWLEY, Paris or Moscow? Warsaw Architects and the Image of the Modern City in the 1950s, in: Kritika 9/4 (2009), p. 769-797.

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principles and attributed leading roles to engineers, the Soviet Union also provides an extreme example of technical experts being forced into a corset of ideological assumptions.[29] Under these conditions the technocratic framework, which at least as a mode of communication proved so effective in the interwar period, did not work any more. But the clout of technocratic models also points to the darker side of the relationship between experts and the state. As Bertrams shows, even for a democracy like Belgium councils of experts managed to exempt themselves of democratic control with surprising ease. It thus fits into the picture that technocratic models played an immensely important role not only in the Soviet Union, but also in Nazi Germany and Fascist Italy.[30]

2. Expert Networks between National Loyalty and Internationalism

The combination of technocratic and national rhetoric functioned within the framework of a scientifically driven promise of technological progress. This combination proved to be extremely effective to convince decision makers, which can easily be traced e.g. for Poland. The above-mentioned development of the COP is one example of a rule of economic technocrats who underscored their efforts in favour of heavy financial investments into large state-subsidized infrastructure and economic projects with national and also military-strategic arguments. Clearly, such examples have to be seen in the context of the extreme popularity of the notion of planning in the 1920s not only in Europe, but also in the United States. In particular the experience of World War I, many contemporaries thought, had demonstrated both the success of planning and the need for even broader and more efficient planning.[31]

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[29] DOLORES L. AUGUSTINE, Red Prometheus. Engineering and dictatorship in East Germany, 1945–1990, Cambridge, MA 2007; KLAUS GESTWA, Technik als Kultur der Zukunft. Der Kult um die 'Stalinistischen Großbauten des Kommunismus', in: Geschichte und Gesellschaft 30 (2004), p. 37-73; SUSANNE SCHATTENBERG, Stalinismus in den Köpfen. Ingenieure konstruieren ihre Welt, in: Geschichte und Gesellschaft 30 (2004), p. 94-117; MARK R. BEISSINGER, Scientific management, socialist discipline and Soviet power, Cambridge, MA 1988.

[30] THOMAS ROHKRÄMER, Die Vision einer deutschen Technik. Ingenieure und das 'Dritte Reich', in: Utopie und politische Herrschaft im Europa der Zwischenkriegszeit, ed. by WOLFGANG HARDTWIG, München 2003, p. 286-325.

[31] Wissenschaft – Planung – Vertreibung. Neuordnungskonzepte und Umsiedlungspolitik im 20. Jahrhundert, ed. by ISABEL HEINEMANN/ PATRICK WAGNER Stuttgart 2006; DIRK VAN LAAK, Zwischen 'organisch' und 'organisatorisch'. 'Planung' als politische

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Since industrial and economic development was often regarded as a key element in the success of the project 'nation state', these states had high expectations of the academic institutions and experts they funded. Expertise was therefore not first and foremost a technical question, but a political one, including its symbolic dimension as well as its representations. Expertise as common knowledge thereby was and is generated in the framework of the relationship between science and power, with its own claims of validity and forms of representation.[32] For the period covered in this volume, expertise and knowledge had become central to questions of national security, economic development and also identity formation. Knowledge had always mattered tremendously to states and economic elites, and the control of expertise remains a central political goal of nation states. It became one of the duties of all states or state federations, and this holds true also for the rapidly developing states of Central Eastern Europe after 1918. Since knowledge often masquerades as neutral fact, pretending to be 'true', independent knowledge has never been very common.[33]

Knowledge is thus, of course, always socially constructed, and so, one might add, is expertise. Already in 1935 the Polish-Jewish physician and bacteriologist Ludwik Fleck had stressed this in his by now widely acknowledged book, *The Genesis and Development of a Scientific Fact*, which he – perhaps not incidentally – developed in a region also addressed in this volume: the allegedly peripheral European city of Lvov.[34]

The intimate connection between the expert, the state and society also remained intact in the post-World War II period. This nationalization

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Leitkategorie zwischen Weimar und Bonn, in: Griff nach dem Westen, Die 'Westforschung' der völkisch-nationalen Wissenschaften zum nordwesteuropäischen Raum (1919-1960), ed. by BURKHARD DIETZ/ HELMUT GABEL/ ULRICH TIEDAU, Münster 2003, p. 67-90; DIRK VAN LAAK/ GABRIELE METZLER, Die Konkretion der Utopie. Historische Quellen der Planungsutopien der 1920er Jahre, in: Wissenschaft – Planung – Vertreibung, p. 23-43.

[32] CARSTEN REINHARDT, Historische Wissenschaftsforschung heute. Überlegungen zu einer Geschichte der Wissensgesellschaft, in: Berichte zur Wissenschaftsgeschichte 33 (2010), p. 81-99, p. 84.

[33] DOMINIQUE PESTRE, Regimes of Knowledge Production in Society. Towards a More Political and Social Reading, in: Minerva 41 (2003), p. 245-261; see also STEPHEN TURNER, What is the Problem with Experts? in: Social Studies of Science 31/1 (2001), p. 123-149, p. 127, and H. M. COLLINS, ROBERT EVANS, The Third Wave of Science Studies. Studies of Expertise and Experience, in: Social Studies of Science 32/2 (2002), p. 235-296; also REINHARDT, Historische Wissenschaftsforschung, p. 84.

[34] See ILANA LÖWY, Medical acts and medical facts. The Polish tradition of practice-grounded reflections on medicine and science from Tytus Chalubiński to Ludwik Fleck, Krakow 2000; Cognition and fact. Materials on Ludwig Fleck, ed. by ROBERT S. COHEN/ THOMAS SCHNELLE, Dordrecht 1986; Penser avec Fleck. Investigating a Life Studying Life Sciences, ed. by JOHANNES FEHR, Zurich 2009.

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process was perhaps at its height during the Cold War both in the United States and in the Soviet Union, but its origins certainly date back to the interwar period.

However, expertise and knowledge in many cases developed as a result of a close intertwining between knowledge that was generated abroad and the specific structures of the national settings. The years preceding the outbreak of World War I were on the one hand a period of consolidation and expansion of the nation state, and on the other a period in which science and expertise expanded into the international arena as never before.[35] Due to the legacy of the empires in Central Eastern Europe, many experts had not received their education and training in their post-1918 'home countries'. Before as well as after 1918, travelling was still an elite privilege. Many experts belonged to these elites and were therefore part of internal migration processes across the western and the eastern parts of Europe. In historiography, these processes have so far received less attention than, for example, transcontinental migrations.[36] The experiences these experts gained abroad (in contrast to a more permanent migration and remigration, this was also possible for short-term stays with Rockefeller Foundation grants, for example[37]) proved to be a great opportunity for many of the experts since their knowledge, generated in international exchange, was desperately needed, and they knew how to invest it.

Former scientists like the above-mentioned Kwiatkowski and the president of Poland, Mościcki, who in the interwar period turned their scientific careers into political ones, had also spent a certain time abroad: Mościcki mainly in Switzerland and Riga, Kwiatkowski in Munich. Many economists, entrepreneurs and scientists were active in the context of a scientific

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[35] ELISABETH T. CRAWFORD/ TERRY SHINN/ SVERKER SÖRLIN, The nationalization and denationalizing of science. An introductory essay, in: Denationalizing science. The contexts of international scientific practice, ed. by ELISABETH T. CRAWFORD/ TERRY SHINN/ SVERKER SÖRLIN, Dordrecht 1993, p. 1-42, p. 13; see also GEERT J. A. SOMSEN, History of Universalism. Conceptions of the Internationality of Science from the Enlightenment to the Cold War, in: Minerva 46 (2008), p. 361-379.

[36] ANNEMARIE STEIDL, European mobility. Internal, international, and transatlantic moves in 19th and early 20th centuries, Göttingen 2009.

[37] For the case of medical contacts, see PAUL WEINDLING, The League of Nations and International Medical Communcation in Europe, in: Sciences et langues en Europe. Une conférence organisée par le Centre Alexandre Koyré, ed. by ROGER CHARTIER/ PIETRO CORSI, Luxembourg 2000, p. 201-211; ALEKSANDRA WITCZAK HAUGSTAD/ ERIK INGEBRIGTSEN, National Policies and International Philanthropy. The Rockefeller Foundation and Polish and Hungarian Science between the World Wars, in: American Foundations in Europe. Grant-Giving Policies, Cultural Diplomacy and Trans-Atlantic Relations, 1920–1980, ed. by GIULIANA GEMELLI/ ROY MACLEOD, Brussels 2003, p. 53-72.

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community already before 1918, as Jajeśniak-Quast demonstrates with the example of the Polish members of the Pan-European Movement.

From this constellation – and this is also taken up by Jajeśniak-Quast, Loose and Roswitha Reinbothe in this volume – certain tensions between evolving international expert cultures and the frameworks of the nation states within which the experts acted arose: The willingness to sacrifice the interests of science or expertise for the interests of the nation could collide with the necessity of transnational personal contacts and international collaboration.[38] Experts relied on a complex relationship between national and international affiliations, which they were well aware of and often intentionally employed.[39] Thus, internationalism, understood as a framework of a universal understanding of knowledge, went hand in hand with nationalism. Internationalism was not a counterforce to nationalism, but effectively channelled and facilitated it.[40] State structures and institutions, state subsidies and also state control on a national level were, and still are, essential factors for experts, since their fields of knowledge production are often enterprises politically and financially contained within the borders of the nation state. At the same time, their achievements had to (and still have to) measure up to international standards. Thus, there is no simple dichotomy between national and international space – they are closely intertwined and overlap, since international space constitutes a space that is inert and only exists when activated or constructed by actors or experts for knowledge-generating activities.[41]

Within this framework of a complex relationship between national and international affiliations, new relations between experts took shape and new forms of networks developed mainly due to the new means of communica-

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[38] Taking into account the particularly virulent German case, this has been discussed by PAUL FORMAN, Scientific Internationalism and the Weimar Physicists. The Ideology and Its Manipulation in Germany after World War I, Isis 64/222 (1973), p. 151-180, p. 177.

[39] The mechanics of internationalism. Culture, society, and politics from the 1840s to the First World War, ed. by MARTIN GEYER/ JOHANNES PAULMANN, Oxford 2001; MICHAEL ECKERT, Strategic Internationalism and the Transfer of Technical Knowledge, in: Technology & Culture 46 (2005), p. 104-131; JOHAN SCHOT/ VINCENT LAGENDIJK, Technocratic Internationalism in the Interwar Years. Building Europe on Motorways and Electricity Networks, in: Journal of Modern European History 6 (2008), p. 196-217.

[40] See SOMSEN, History of Universalism, p. 366.

[41] See CRAWFORD/ SHINN/ SÖRLIN, The nationalization and denationalizing of science, p. 36; see also LUDMILLA JORDANOVA, Science and nationhood. Cultures of imagined communities, in: Imagining Nations, ed. by GEOFFREY CUBITT, Manchester 1998, p. 192-211, and Transnational Political Spaces. Agents – Structures – Encounters, ed. by MATHIAS ALBERT, Frankfurt am Main 2009, p. 19.

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tion that evolved in the nineteenth and twentieth centuries. These networks served as a base for various transnational movements.[42]

Following Patricia Clavin, transnationalism in this context is to be understood as a means for researching people, the social spaces in which they interacted, the networks they established and the ideas they exchanged.[43] Newly emerged expert groups tried to gain status and recognition through international meetings and congresses and used transnationalism as a strategic resource. In Jajeśniak-Quast's contribution we can observe that the members of the Pan-European Movement who featured the universal idea of giving up the nation state in favour of a European union and a common European market used their international ties to pursue business goals. Another example for the attempt to gain recognition would be the international eugenics movement that was present and active also in Central and Eastern Europe after 1918.[44] Public health in general developed very dynamically in Central and Eastern Europe and offered considerable chances for the experts in the field – in their home countries as well as in the international arena.[45]

For some of the newly founded networks, English as the new common language was not without consequence: For example, the International Research Council (IRC) was established under the auspices of the United States, and Germany thus lost its leading role in the arena of international scientific cooperation.[46] For newly founded countries in Central Eastern Europe like Poland and Czechoslovakia that were integrated into the IRC, this new cooperation created new opportunities. The defeat of the Central Powers in World War I had also undermined German as an international scientific language, a topic that Reinbothe elaborates in this volume. The

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[42] See STEFAN KAUFMANN, Einleitung. Netzwerk – Methode, Organisationsmuster, antiessenzialistisches Konzept, Metapher der Gegenwartsgesellschaft, in: Vernetzte Steuerung. Soziale Prozesse im Zeitalter technischer Netzwerke, ed. by STEFAN KAUFMANN, Zürich 2007, p. 7-21, p. 8.

[43] PATRICIA CLAVIN, Defining Transnationalism, in: Contemporary European History 14 (2005), p. 421-439.

[44] See 'Blood and homeland'. Eugenics and racial nationalism in Central and Southeast Europe, ed. by MARIUS TURDA/ PAUL WEINDLING 1900–1940, Budapest 2007; STEFAN KÜHL, Die Internationale der Rassisten. Aufstieg und Niedergang der internationalen Bewegung für Eugenik und Rassenhygiene im 20. Jahrhundert, Frankfurt am Main 1997.

[45] See for example MARTA ALEKSANDRA BALIŃSKA, For the good of humanity. Ludwik Rajchman, medical statesman, Budapest 1998; KLAUS GESTWA, Social and soul engineering unter Stalin und Chruschtschow, 1928–1964, in: Die Ordnung der Moderne, p. 241-277.

[46] ECKHARDT FUCHS, Wissenschaftsinternationalismus in Kriegs- und Krisenzeiten. Zur Rolle der USA bei der Reorganisation der internationalen *scientific community* 1914-1925, in: Wissenschaft und Nation in der europäischen Geschichte, ed. by RALPH JESSEN/ JAKOB VOGEL, Frankfurt am Main 2002, p. 263-284.

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boycott of German science at the beginning of the interwar period heralded the decline of the German language as a means of transnational scientific communication. As a reaction, many German medical experts cultivated relations with Russia, for example. This newly formed relationship proved to be fruitful also in other expert circles like the military, but functioned only until the 1930s, when growing tensions between German racism and Soviet-style planning and technocracy cooled this budding exchange.[47]

The cooperation between Germany and Russia in the interwar period had been made possible also by a common distrust of the Allies and the newly emerged states, especially Poland, which had to deal with shifts in spatial references away from the former imperial powers Germany, Russia and Austria towards the nation state. Loose shows how Poland managed to recruit and train new functional elites using the example of the Wielkopolska region. By focusing on the involved experts, he develops a fresh view on the history of the newly established Polish administration after the long period of territorial division. Instead of perceiving this period as a 'clash of nations' and a period of Polish-German hostility, Loose is able to show that the process of exchanging elites and groups of experts was a gradual one, accompanied by intensive German-Polish communication. This was possible – and necessary – because the functional systems had to avoid the loss of their functionality and self-organization.[48] With this emphasis on agency, intercultural interactions become visible. This again underlines the close linkage between processes of nationalization and processes of transnationalization.[49]

It becomes apparent that the national does not necessarily and always subjugate all other spatial units (as was the case with the Pan-European Movement), and that expert knowledge challenged this by crossing borders, establishing networks and pursuing international collaboration. Europe in the twentieth century therefore seems to be a space characterized by tensions: tensions between nationally coined innovation systems and styles on the one hand and a process of transnationalization that partly overlays,

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[47] See WEINDLING, League of Nations, p. 210, and ĖDUARD I. KOLCHINSKII, Biologiia Germanii i Rossii-SSSR v usloviiakh sotsial'no-politicheskikh krizisov pervoi poloviny XX veka (mezhdu liberalizmom, kommunizmom i natsional-sotsializmom), Sankt Peterburg 2007; Doing medicine together. Germany and Russia between the wars, ed. by SUSAN GROSS SOLOMON, Toronto 2006.

[48] See Vom Gegner lernen. Feindschaften und Kulturtransfers im 19. und 20. Jahrhundert, ed. by MARTIN AUST/ DANIEL SCHÖNPFLUG, Frankfurt am Main 2007.

[49] MATTHIAS MIDDELL/ KATJA NAUMANN, Global history and the spatial turn. From the impact of area studies to the study of critical junctures of globalization, in: Journal of Global History 5 (2010), p. 149-170, p. 161.

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partly undermines those systems on the other.[50] In this space the success or failure of expertise and experts, and the way they put their expertise together or form styles of their own, was and is highly dependent on the environment and the circumstances in which they are able to act.[51]

This certainly also holds true for the post-World War II period. Even if the Cold War to a large extent inhibited the international contacts experts relied on before 1939, and the newly formed states could only function by maintaining certain functional systems from former times in the political sphere, the economy or the sciences, the new demands for loyalty exceeded those of the nation states in the 1920s and 30s.

3. Reconsidering the Iron Curtain: Experts between East and West after 1945

The end of World War II and the beginning of the Cold War changed the global framework in which experts acted. On the one hand, the former allies launched an 'experts race' hiring German scientists. In this competition, the victorious powers of World War II ignored the Nazi pasts of the experts they recruited more or less of their own free wills. On the other hand, the Soviet Union and the Western Allies contended for spheres of influence in Europe and used their own expertise, scientific methods and managerial knowhow as instruments of power.[52]

A considerable amount of literature has been published on former Nazis in the service of the Western Allies.[53] These studies highlight the Western

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[50] HELMUTH TRISCHLER/ KILIAN STEINER, Innovationsgeschichte als Gesellschaftsgeschichte. Wissenschaftlich konstruierte Nutzerbilder in der Automobilindustrie seit 1950, in: Geschichte und Gesellschaft 34 (2008), p. 455-488, p. 465-466.

[51] See also JONATHAN HARWOOD, National Styles in Science. Genetics in Germany and the United States between the World Wars, in: Isis 78/3 (1987), p. 390-414.

[52] ANDREAS HEINEMANN-GRÜDER, 'Keinerlei Untergang'. German armaments engineers during the Second World War and in the service of the victorious powers, in: Science, Technology and National Socialism, ed. by MONIKA RENNEBERG/ MARK WALKER, Cambridge 1994, p. 30-50; JOHN KRIGE, American Hegemony and the Postwar Reconstruction of Science in Europe, Cambridge, MA 2006; Global Power Knowledge, ed. by JOHN KRIGE/ KAI-HENRIK BARTH, Chicago 2006; see also The Americanisation of European Business. The Marshall Plan and the transfer of US management models, ed. by MATTHIAS KIPPING/ OVE BJARNAR London 1998; CORINNA R. UNGER, Cold War Science. Wissenschaft, Politik und Ideologie im Kalten Krieg, in: Neue politische Literatur 51/1 (2006), p. 49-68.

[53] LINDA HUNT, Secret Agenda. The United States Government, Nazi Scientists and Project Paperclip, 1945 to 1990, New York 1991; BURGHARD CIESLA, Das 'Project Paperclip'. Deutsche Naturwissenschaftler und Techniker in den USA (1946 bis 1952), in:

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democracies' Machiavellian approach in employing outstanding former Nazi scientists such as Wernher von Braun in the United States, where at the same time purportedly leftist scientists such as Robert Oppenheimer were persecuted in the McCarthy era.[54]

Christoph Mick draws our attention to the other side of the Iron Curtain, i.e. to the approximately 3,000 German scientists who were deported to the Soviet Union from 1945 to 1947.[55] Analysing autobiographical and archival material, he points out that many experts who had defined themselves as apolitical and thereby justified their loyalty to Nazi Germany could not transfer this strategy of self-legitimization to the Soviet context. The work conditions were too different from what the German scientists were used to, which eventually prompted them to at least passively resist. Their isolation even from Soviet research resulted in a process of rapid professional dequalification. Mick stresses the fact that 'even totalitarian dictatorships cannot simply force experts to be creative' (p. 197) and finds that the transfer of knowledge from Nazi Germany to the Stalinist Soviet Union after World War II failed to a large degree.[56]

Sari Autio-Sarasmo identifies mental barriers as another obstacle to technology transfer to the Soviet Union: The import of 'capitalist' technology created an ideological problem because it clashed with the idea of the superiority of the socialist system.[57] This obstacle was surmountable, however, as she shows in her case study on the cooperation of Siemens and

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Historische DDR-Forschung. Aufsätze und Studien, ed. by JÜRGEN KOCKA, Berlin 1993, p. 287-301.

[54] JESSICA WANG, American Science in an Age of Anxiety. Scientists, Anticommunism, and the Cold War, Chapel Hill 1999; KAI BIRD/ MARTIN J. SHERWIN, American Prometheus. The Triumph and Tragedy of J. Robert Oppenheimer, New York 2005.

[55] ULRICH ALBRECHT/ ANDREAS HEINEMANN-GRÜDER/ AREND WELLMANN, Die Spezialisten. Deutsche Naturwissenschaftler und Techniker in der Sowjetunion, Berlin 1992; CHRISTOPH MICK, Forschen für Stalin. Deutsche Fachleute in der sowjetischen Rüstungsindustrie 1945–1958, München 2000; MATTHIAS UHL, Stalins V-2. Der Technologietransfer der deutschen Fernlenkwaffentechnik in die UdSSR und der Aufbau der sowjetischen Raketenindustrie 1945 bis 1959, Bonn 2001.

[56] On the strategies of self-legitimization of former Nazi scientists in East Germany, see the recent case study GEORG WAGNER-KYORA, Vom 'nationalen' zum 'sozialistischen' Selbst. Zur Erfahrungsgeschichte deutscher Chemiker und Ingenieure im 20. Jahrhundert, Stuttgart 2009; on Soviet engineers, see SUSANNE SCHATTENBERG, Stalins Ingenieure. Lebenswelten zwischen Technik und Terror, München 2002.

[57] SARI AUTIO-SARASMO, Soviet Economic Modernisation and Transferring Technologies from the West, in: Modernisation in Russia since 1900, ed. by MARKKU KANGASPURO, JEREMY SMITH, Helsinki 2006, p. 104-123. See also KARSTEN RUDOLPH, Wirtschaftsdiplomatie im Kalten Krieg. Die Ostpolitik der westdeutschen Großindustrie 1945–1991, Frankfurt am Main 2004.

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other West German enterprises with the Soviet Union in the Khrushchev era.

The Cold War years may have been the period of the most intense flux of expertise from east to west – not across the Iron Curtain, but from the Soviet Union to the countries of Eastern and Central Eastern Europe. Both superpowers tried to impose their respective political, economic and social systems in their spheres of influence in postwar Europe.[58] Thus, the Soviet Union used forced knowledge transfer to exercise power in its new satellites in Central Eastern Europe.[59]

Pál Germuska exemplifies this in a detailed account of the Sovietization of the Hungarian military industry in the 1950s, when Soviet advisers organized and supervised the transfer of arms technology and production models. The export of second-rate technology and the forced adoption of Soviet norms served the political end of subordinating Hungary to the 'big brother' in the East while, from a technological and economic point of view, it meant a dramatic backlash for Hungary.

What Germuska analyses in his case study also applies more generally to the entire region. The Soviet Union enforced the reorganization of higher education in Central Eastern Europe according to its own model[60] as well as the adoption of GOST standards instead of those technical norms which had been common up to that point, and continued to be used in

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[58] Reviewing the Cold War. Approaches, Interpretations, Theory, ed. by ODD ARNE WESTAD London 2000; Gleichschaltung unter Stalin? Die Entwicklung der Parteien im östlichen Europa 1944–1949, ed. by STEFAN CREUZBERGER/ MANFRED GÖRTEMAKER, Paderborn 2002; DONAL O'SULLIVAN, Stalins 'Cordon sanitaire'. Die sowjetische Osteuropapolitik und die Reaktionen des Westens 1939–1949, Paderborn 2003; JOHN LEWIS GADDIS, The Cold War. A new history, New York 2005; BERND STÖVER, Der Kalte Krieg 1947–1991. Geschichte eines radikalen Zeitalters, München 2007.

[59] ZOLTAN BARANY, Soviet Takeovers. The Role of Advisers in Mongolia in the 1920s and in Poland and Hungary after World War II, in: East European Quarterly 28/4 (1994), p. 409-433. For a comparative view, see BAICHUNG ZHANG/ JIUCHUN ZHANG/ FANG YAO, Technology Transfer from the Soviet Union to the People's Republic of China 1949–1966, in: Comparative Technology Transfer and Society 4/2 (2006), p. 105-171.

[60] PIOTR HÜBNER, Polityka naukowa w Polsce w latach 1944-1953. Geneza systemu, 2 vols, Wrocław 1992; JOHN CONNELLY, Foundations for Reconstructing Elites. Communist Higher Educational Policies in the Czech Lands, East Germany and Poland, 1945–1948, in: East European Politics and Societies 10/3 (1996), p. 367-392; JOHN CONNELLY, Captive University. The Sovietization of East German, Czech, and Polish Higher Education, 1945–1956, Chapel Hill 2000; I. V. KAZARINA, Vliianie SSSR na razvitie nauki v sotsialisticheskikh stranakh v 1952-1953 gg., in: Za 'Zheleznym zanavesom'. Mify i realii sovetskoi nauki, ed. by MANFRED CHAINEMANN/ ĖDUARD I. KOLCHINSKII, Sankt Peterburg 2002, p. 407-419; Universities under dictatorship, ed. by JOHN CONNELLY/ MICHAEL GRÜTTNER, University Park 2005.

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Western Europe.[61] It founded COMECON and other specialized international organizations for the technological and economical cooperation between the socialist countries (e. g. the Joint Institute for Nuclear Research, Intersputnik and Interelektro).[62]

Taking into account that the working language in these organizations was Russian and that travelling to capitalist countries was subject to strong restrictions, the existence of these organizations resulted in the isolation of socialist experts and the decoupling of a 'socialist sphere of knowledge' from the rest of the world. The culmination of this kind of forced knowledge transfer – even if outdated or wrong – was the rapid spread of Trofim Lysenko's neo-Lamarckian biology in Central European academia after 1945, and its even faster disappearance after Lysenko lost support in the Soviet Union.[63] Another striking example of Central Eastern Europe's involuntary isolation was Stalin's refusal to let Czechoslovakia try to benefit from the Marshall Plan.[64] Finally, the early postwar years witnessed an elite exchange in the fields of technology and economy, even if the rupture was not as radical as among political elites.[65]

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[61] ZBIGNIEW KAMIŃSKI/ ANTONI RUSZKOWSKI, Prace normalizacyjne w RWPG, Warszawa 1965; Normy RVHP, Praha 1988; Standartizatsiia v Rossii 1925–2005, ed. by GRIGORII I. ĖL'KIN et al., Moskva 2005.

[62] ADAM ZWASS, The Council for Mutual Economic Assistance. The Thorny Path from Political to Economic Integration, Armonk 1989; JENNY BRINE, Comecon. The rise and fall of an international socialist organization, Oxford 1992; see also ZBIGNIEW M. KLEPACKI, Organizacje międzynarodowe państw socjalistycznych, Warszawa 1981; Wirtschaftliche und wissenschaftlich-technische Zusammenarbeit der RGW-Länder. Dokumente, Berlin 1981; Internationale ökonomische Organisation der RGW-Länder. Dokumente, Berlin 1985; VLADIMIR SOBELL, Technology Flows within Comecon and Channels of Communication, in: Technical Progress and Soviet Economic Development, ed. by ROBERT AMANN/ JULIAN COOPER, Oxford 1986, p. 135-152, especially table 7.5 (p. 151).

[63] NIKOLAI KREMENTSOV, Stalinist Science, Princeton 1997; IGOR J. POLIANSKI, 'Das Lied vom Anderswerden'. Der Lysenkoismus und die politische Semantik der Vererbung, in: Osteuropa 59/10 (2009), p. 69-88; WILLIAM DEJONG-LAMBERT, The new biology. Lysenkoism in Poland, Saarbrücken 2008; WILLIAM DEJONG-LAMBERT, The New Biology in Poland after the Second World War. Polish Lysenkoism, in: Paedagogica Historica 45/3 (2009), p. 403-420.

[64] KAREL KRÁTKY, Czechoslovakia, the Soviet Union, and the Marshall Plan, in: The Soviet Union in Eastern Europe, 1945-89, ed. by ODD ARNE WESTAD et al., London 1994, p. 9-25; JOANNA JANUS, Polska i Czechosłowacja wobec planu Marshalla, Kraków 2001; MICHAEL COX/ CAROLINE KENNEDY-PIPE, The Tragedy of American Diplomacy? Rethinking the Marshall Plan, in: Journal of Cold War Studies 7/1 (2005), p. 97-134.

[65] The Establishment of Communist Regimes in Eastern Europe, 1944–1949, ed. by NORMAN NAIMARK/ LEONID GIBIANSKII Oxford 1997; Alte Eliten in jungen Demokratien? Wechsel, Wandel und Kontinuität in Mittel- und Osteuropa, ed. by HANS-JOACHIM VEEN, Köln 2004; Elites and Social Change. The Socialist and Post Socialist Experience, ed. by HEINRICH BEST et al., Hamburg 2009.

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The Iron Curtain was not, however, impenetrable. In recent years, interest in East-West-contacts during the Cold War, which always existed despite political rhetoric and embargo strategies such as the CoCom control lists, has increased.[66] These contacts were moreover not limited to 'soft' areas such as culture and sports.[67] The socialist countries also participated in the United Nations, its specialized agencies and other international professional and expert organizations. In her case study, Małgorzata Mazurek examines the impact of the international contacts of the Polish consumer movement in the late Communist period. Originally there was a division between the group of loyal state experts on consumption issues, which was considered to be apolitical and therefore allowed to internationally cooperate, and activists for consumer rights close to the *Solidarność* movement. Mazurek shows, however, that the shortcomings of the planned economy led to the politicization of both legal and semi- or illegal expertise on consumer issues. As a result, initially apolitical consumerism developed into a powerful oppositional branch in the People's Republic of Poland.

The transnational collaboration beyond the Iron Curtain that Mazurek illustrates for the field of consumerism shows that the superpowers shared common ground even in the era of strongest confrontation. In the bipolar world of the Cold War, the enemy always remained predictable since it

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[66] Kooperation trotz Konfrontation. Wissenschaft und Technik im Kalten Krieg, ed. by KLAUS GESTWA/ STEFAN ROHDEWALD, Special issue of Osteuropa 59/10 (2009); Internationalism and Science, ed. by AANT ELZINGA/ CATHARINA LANDSTRÖM, London 1996; Vom Gegner lernen; IVAN JAKUBEC, Schlupflöcher im 'Eisernen Vorhang'. Tschechoslowakisch-deutsche Verkehrspolitik im Kalten Krieg. Die Eisenbahn und Elbeschiffahrt 1945–1989, Stuttgart 2006; see also the research project 'Knowledge through the Iron Curtain. Transferring Knowledge and Technology in Cold War Europe'. (http://www.helsinki.fi/aleksanteri/kic/index.htm). On CoCom, see GARY BERTSCH, Technology Transfers and Technology Controls. A Synthesis of the Western-Soviet Relationship, in: Technical Progress, p. 115-134; IAN JACKSON, The Economic Cold War. America, Britain, and East-West Trade, 1948–1963, New York 2001.

[67] YALE RICHMOND, Cultural Exchange and the Cold War. Raising the Iron Curtain, University Park 2003; WALTER L. HIXSON, Parting the Curtain. Propaganda, Culture and the Cold War, 1945–1961, New York 1998; JENS NIEDERHUT, Wissenschaftsaustausch im Kalten Krieg. Die ostdeutschen Naturwissenschaftler und der Westen, Köln 2007; JENS NIEDERHUT, Grenzenlose Gemeinschaft? Die scientific community im Kalten Krieg, in: Osteuropa 59/10 (2009), p. 57-68; East Plays West. Sport and the Cold War, ed. by STEPHEN WAGG/ DAVID L. ANDREWS, London 2007; Sport zwischen Ost und West. Beiträge zur Sportgeschichte Osteuropas im 19. und 20. Jahrhundert, ed. by ARIÉ MALZ/ STEFAN ROHDEWALD/ STEFAN WIEDERKEHR, Osnabrück 2007; on media and propaganda, see ARCH PUDDINGTON, Broadcasting Freedom. The Cold War Triumph of Radio Free Europe and Radio Liberty, Lexington 2000; Massenmedien im Kalten Krieg. Akteure, Bilder, Resonanzen, ed. by THOMAS LINDENBERGER, Köln 2006; JAMES SCHWOCH, Global TV. New Media and the Cold War, 1946–69, Urbana 2009.

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defended its interests rationally.[68] It was not only the experts in the secret services who relied on game theory to explain the enemy's behaviour, but in general the experts and scientists who advised the governments on both sides of the Iron Curtain along the lines of rational choice theories, and in this way impelled political leaders to act rationally. In other words: On the one hand experts intensified the confrontation by constructing atomic bombs, sending Sputnik into orbit or Eagle to the moon, but on the other spoke a common language beyond the Cold War rhetoric, which allowed them to collaborate in space missions beginning in the 1970s or to negotiate treaties on nuclear non-proliferation and arms control.[69]

The existence of these transnational expert networks during the Cold War and their common ideological backgrounds involving notions of 'modernity' was one of the main reasons why the Central Eastern European countries were able to transform into democratic states and knowledge societies so quickly and successfully after 1989.

[68] EVA HORN, Der geheime Krieg. Verrat, Spionage und moderne Fiktion, Frankfurt am Main 2007, p. 332-334; see also PETER M. HAAS, Introduction. Epistemic communities and international policy coordination, in: International Organization 46/1 (1992), p. 1-35; ALLISON L. C. DE CERREÑO/ ALEXANDER KEYNAN, Scientific Cooperation, State Conflict. The Roles of Scientists in Mitigating International Discord, New York 1998.

[69] MATTHEW EVANGELISTA, Unarmed Forces. The Transnational Movement to End the Cold War, Ithaca 1999; KAI-HENRIK BARTH, Cataclysts of Change. Scientists as Transnational Arms Control Advocates in the 1980s, in: Global Power Knowledge, p. 182-206.

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