

"TAKEN ON FAITH": EXPERTISE IN AERIAL WARFARE AND THE DEMOCRATIC "WEST" IN THE TWENTIETH CENTURY

Sophia Dafinger

UNIVERSITY OF AUGSBURG

The current Covid-19 pandemic has once again shown how contested the status of experts is in "western" democracies. On the one hand, they seem to be the only ones from whom help can be expected in crises: they can assess and analyze confusing situations, make predictions on the basis of their knowledge and give recommendations for action. Millions of people came to the sudden realization that without the knowledge of exponential growth, infection pathways, and aerodynamics it was obviously impossible to make politics. On the other hand, it became clear that even experts do not know everything. Above all, concrete instructions for action could not necessarily be deduced from their knowledge. At the first peak of the crisis in spring and summer 2020, both those critics who feared for democratic processes and wanted to prevent long-term governance based on emergency regulations and without active parliamentary opposition and those who generally reject the supposedly exclusive knowledge of "elites," and who often linked these reservations with a number of anti-Semitic clichés, debated the question of what political influence experts might and should have. Finally, in spring 2020 some of the interviewed experts emphasized that they do not see themselves as politicians and are happy not to have to decide for the community how to weigh up different life- or at least health-threatening risks in a confusing situation in a meaningful way.¹

Until the 1970s, it was atypical for experts to be so visible in the media and to engage in public debate, as they usually advised governments and their representatives behind closed doors.² Especially in war

1 In the NDR podcast episode of 30 March 2020, virologist Christian Drosten said "Science has no democratic mandate. A scientist is not a politician, he was not elected and does not have to resign. No scientist wants to say things like: This political decision was the right one

or that political decision was wrong. Or this political decision must be made next. You'll hear this from no respectable scientist. [...] Both sides say that politics makes the decisions and not science. Both politics and science say this." See <https://www.ndr.de/nachrichten/info/>

coronaskript154.pdf, 4. And a few weeks later: "If a political decision has to be made [...] then life science information is one of the criteria. And economic information, for example, is another one of the criteria. Politics must bundle this information and make a rational decision for society. That is »

» the great difficulty and the great responsibility of politics." See <https://www.ndr.de/nachrichten/info/coronaskript190.pdf>, 5.

2 This is still the case today, but during the Vietnam War forms of investigative journalism and opinion journalism developed in the USA that went far beyond the dissemination of existing information, such as official press releases, and is today considered a guideline for good journalistic work. For further details, see Christoph Meister, *No News without Secrets. Political Leaks in the United States from 1950-1976* (Marburg, 2016), 187-204.

and crisis situations, in which expert knowledge was particularly in demand, hardly any of their activities were made public. For this form of political consulting, on the other hand, it was important to convey clear messages, since experts derived their authority and status precisely from ordering complicated settings and clarifying situations with the help of their exclusive insights. Doubts or a clear indication that knowledge is preliminary and cannot replace political decisions therefore usually had no place in their expertise. This applies all the more to those scientific experts who became politically relevant and have occupied a central place in the decision-making processes of governments since the emergence of the modern state apparatus, but especially since the increasing mechanization in the nineteenth century and during the two world wars, which further accelerated this process. They drew their legitimacy from references to the inescapability of rational, methodologically sound scientific procedures, from the belief in the ability of exact sciences to correctly grasp reality, and from the promise of being able to model the future and thus make it predictable.³

This applies not least to the disciplines of the social sciences, which emerged around 1900 and slowly established themselves. In the twentieth century, sociology, psychology, political science, anthropology, ethnology, parts of the historical sciences, and also economics developed their self-understanding as empirically working disciplines not least in exchange with buyers of their expertise, and since 1914 this has increasingly meant: with the state. The world wars, especially the Second World War, became significant for the social sciences in this respect primarily because they heralded a new form of aerial warfare, in which the civil societies of the belligerent powers were included as participants in the war. Although there had already been individual bombings at the end of the First World War, it was only the technical and strategic developments of the interwar period that led to the use of bomber planes far behind the front lines from 1939 onwards. The figure of the social science expert in the twentieth century was thus more closely connected with aerial warfare than is possibly apparent at first glance. Conversely, the Second World War had a greater impact on the disciplinary development of the social sciences than one might initially assume. In the United States, it was — in addition to Roosevelt's New Deal policy — the occasion for a scientification of politics that led to the first interdisciplinary social science projects modeled after the Big Science research projects in the natural sciences. After 1945, these projects became models for the

3 Dirk van Laak, „Planung, Planbarkeit und Planungseuphorie.“ Version: 1.0, in *DocupediaZeitgeschichte*, 16.2.2010, <http://docupedia.de/zg/Planung> (last accessed 8/25/2020).

founding of social science-based research and consulting institutes and still had an impact on warfare in Vietnam.⁴ The history of social science expertise is thus a central element of a modern transatlantic history of violence and conflict, which asks how modern wars were planned and waged, what knowledge was needed for this, and how this knowledge fed back into the respective societies.

After 1945, the integration of social science expertise into the evaluation and planning of aerial warfare led to a specific form of cooperation between the state and science. It is worth reflecting on the logic of this cooperation, on its ambivalences, struggles, and consequences — both for the scientific disciplines involved and with regard to the question of how democratic societies actually conceive foreign and security policy. How did this cooperation between social science and politics come about in the context of the air war and what sustained it? Who was interested in it? Who benefited from it? What knowledge did it generate and what remained of it? And what was not asked, not heard or forgotten?

Particularly revealing for these questions is the example of the United States as the strongest military power in the second half of the twentieth century, as one of the most important actors in international politics and as a living democracy.⁵ The history of social science experts on aerial warfare also provides insight into the self-image of democratic societies. It is linked to the debate about what influence experts should actually have on decision-making processes and to what extent secrecy is compatible with democratic procedures. In the course of the twentieth century, American society has had to develop a consensus on what constitutes legitimate wartime violence when there are no longer any classic frontlines. In view of new technologies, this process continues to change. Writing about aerial warfare experts in the United States therefore does not only mean reflecting on how modern warfare has evolved. What can be shown on the example of aerial warfare experts also spurs us to think beyond the concrete case in hand about what democratic societies are willing to accept in terms of wartime violence — and what they aren't. At the same time, transatlantic history once again shows how closely German and U.S. history of the twentieth century are connected in a context whose pivotal point was the Second World War. Beyond the history of occupation, strategic partnership in the cold war, or the history of Americanization, the history of scientific expertise is part of the Westernization that Anselm Doering-Manteuffel⁶ has

4 On the history of the so-called scientification of the social, the essential work remains Lutz Raphael, "Die Verwissenschaftlichung des Sozialen als methodische und konzeptionelle Herausforderung für eine Sozialgeschichte des 20. Jahrhunderts," *Geschichte und Gesellschaft*, 22, no. 2 (1996): 165-193.

5 Although there are hardly any studies on the activities of air war experts in other countries, there is every indication that the USA in comparison relies heavily on institutes and think tanks associated with the respective branches of the armed forces, see Rolf Hobson, "Defense Intellectuals.' Zur Karriere von Schreibtischstrategen," in *Erbe des Kalten Krieges*, ed. Bernd Greiner, Tim B. Müller and Klaas Voß (Hamburg, 2013), 148-158.

6 Anselm Doering-Manteuffel, "Westernisierung. Politisch-ideeller und gesellschaftlicher Wandel in der Bundesrepublik bis zum Ende der 60er Jahre," in *Dynamische Zeiten. Die 1960er Jahre in den beiden deutschen Gesellschaften*, ed. Axel Schildt, Detlef Siegfried and Karl Christian Lammers (Hamburg, 2000), 311-41, here 314.

described as “the gradual emergence of a common set of values in the societies on both sides of the North Atlantic.”

During the Second World War, it became apparent that in all participating countries numerous expectations were tied to aerial warfare. Following isolated bombings during the First World War and in colonial contexts and in light of existing aerial warfare doctrines, the first American Air Force generals as well as the War Department and the White House hoped that bombing would not only cause physical damage, but also psychological and indirect social damage. This was based on the assumption that modern societies were particularly fragile because they were specialized and interdependent.⁷ All governments therefore discovered the civilian population as a decisive factor in war. This applied to the so-called home fronts, whose willingness to make sacrifices and persevere was invoked by governments everywhere. But the fact that the civilian population became part of the war effort was also true inasmuch as the people far behind the military frontlines had actually become the target of enemy military forces. The new bomber squadrons, which were systematically deployed in strategic aerial warfare against industries and infrastructures and also against cities and residential areas for the first time during the Second World War, changed the face of war fundamentally.

Knowledge about societies, about people and supply structures could now possibly become decisive for war. At the very least, however, modern aerial warfare was simply unthinkable without such knowledge as the social sciences possessed and could produce. With the dissolution of the boundaries of war, with the revolutionization of space through aerial warfare, and with the inclusion of civilians as a “home front,” all of society was now in a state of war — and the fledgling social sciences were consulted by both the military and politics. In the early 1940s, a whole group of young scientists belonging to the White Anglo-Saxon Protestant establishment on the American East Coast seized the opportunity to influence the course of events with their research, for the concepts according to which strategic aerial warfare was planned did not rest on a firm empirical foundation. In reality, in 1944, it was not clear to anyone whether it was really a productive idea to destroy the enemy’s arms industry and infrastructure and to attempt to attack the “war morale” of the population from the air. Regardless of moral considerations, the question was simply: Does it make any military sense at

⁷ See Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas about Strategic Bombing, 1914-1945* (Princeton, 2002), 7.

all to fight for air supremacy over enemy territory and bomb targets far behind the front lines? The answers given by social scientists to this question could therefore determine what the concrete planning of air raids would look like.

While social scientists and aerial warfare experts could only question publicly accessible texts

and intelligence information during the war, a new situation arose with the occupation of first the European, then the Pacific theater of war: Now it was possible to collect empirical data. The U.S. Army Air Forces (USAAF) seized this opportunity. In addition to the expected increase in knowledge, the generals were also concerned with power: they hoped that the scientific confirmation of their own importance would enable them to become independent of the Army and form a separate branch of the armed forces.⁸ They therefore campaigned for the establishment of a survey under civilian chairmanship and were ultimately successful. In 1944 and 1945, the United States Strategic Bombing Survey (USSBS) evaluated those strategic bombings for which the United States was responsible. By the spring of 1945, it already employed more than 1,000 people, the majority of them academically trained military personnel, but also several dozen specially recruited civilian scientists and a few women scientists. They worked in interdisciplinary departments where their task was to draw lessons from the European theater of war for the ongoing aerial warfare in the Pacific region.⁹



Figure 1. The face of “total war”: Cologne after aerial bombing. Public domain.

8 On the objectives of the USAAF generals, see Gian P. Gentile, *How Effective is Strategic Bombing? Lessons Learned from World War II to Kosovo*, (New York, 2001).

9 For a detailed discussion of the USSBS, also see Sophia Dafinger, *Die Lehren des Luftkriegs. Sozialwissenschaftliche Expertise in den USA vom Zweiten Weltkrieg bis*

Vietnam (Stuttgart, 2020) as well as Sophia Dafinger, “Keine Stunde Null. Sozialwissenschaftliche Expertise und die amerikanischen Lehren des Luftkrieges,” in »

» *Zeithistorische Forschungen/Studies in Contemporary History*, 17, no. 1 (2020): 11-35, online at <https://zeithistorische-forschungen.de/1-2020/5809> (last accessed 8/25/2020).

Among the most prominent members of the USSBS were John Kenneth Galbraith, head of the Overall Economic Effects Division and one of the most famous liberal economists of the twentieth century,¹⁰ and Paul H. Nitze, Head of the Equipment Division and the Utilities Division and later Deputy Secretary of Defense under President Kennedy.¹¹ Nitze was one of those academically educated experts whose career did not lead him into work at research institutes but into politics. The social psychologist Rensis Likert headed the Morale Division, which dealt with the “war morale” of the population. Likert became one of the most prominent opinion researchers in the 1930s and later shaped organizational and corporate sociology.¹² Social scientists are still familiar with his name today from questionnaire research. The so-called Likert Scale, which he developed to measure attitudes, added a differentiated panorama to the previously common choice between agreeing or disagreeing with a given statement, ranging from “don’t agree at all” to “fully agree,” and has since been frequently used in questionnaires. Among the new experts on the air war in the 1940s was also Galbraith’s collaborator Paul A. Baran, who later became known as a Marxist economist. In the second tier there were a whole number of German emigrants, including Jürgen Kuczynski, and also dazzling personalities such as the writer Wystan Auden or the composer Nicolas Nabokov. Above all, however, numerous young and ambitious social scientists, such as Daniel Katz, Gabriel Almond and William Sewell, were involved in the interdisciplinary team.¹³ The USSBS was engaged in Big Social Science.

The various teams of the USSBS began their work on site in Germany immediately after the arrival of the occupation troops. They visited factories, collected production plans and other documents, interviewed functionaries such as Albert Speer and Wilhelm Keitel as well as policemen, school principals and pastors, but also — and this was unusual — several thousand ordinary Germans.¹⁴ All in all, the USSBS spent almost a year evaluating the air war in Europe and the Pacific region using the latest empirical research methods and summarizing the results in clearly structured reports. Its staff was concerned with both the direct and the indirect consequences of bombing — and in the so-called Morale Division, where most social scientists were employed, the question of war morale was central. With the help of elaborately designed and repeatedly tested questionnaires, which provided a fixed list of questions, but allowed open answers and the possibility of more precise questions, the USSBS employees spoke with *Volksgenossen* in Speyer and Nazi party members in Hamburg,

10 On Galbraith, see Richard Parker, *John Kenneth Galbraith. His Life, His Politics, His Economics* (Chicago, 2005).

11 Publications on Nitze mainly focused on his career as a foreign policy expert, for example: David Callahan, *Dangerous Capabilities. Paul Nitze and the Cold War* (New York, 1990). Nitze himself reflects on his role in the USSBS in his autobiography with the telling title *From Hiroshima to Glasnost. At the Center of Decision. A Memoir* (New York, 1989).

12 There are extensive papers in the Likert estate, but unfortunately there is no relevant biography. On his academic work, however, see Jean M. Converse, *Survey Research in the United States. Roots and Emergence 1890-1960* (Berkeley, 1987).

13 Blair T. Johnson and Diana R. Nichols, “Social Psychologists’ Expertise in the Public Interest: Civilian Morale Research During World War II,” in *Journal of Social Issues* 54, no. 1 (1998): 53-77 discusses the work of young social psychologists during World War II.

14 The USSBS has its own Record Group in the National Archives, College Park, RG 243. See Sophia Dafinger, *Die Lehren des Luftkriegs*; Gian P. Gentile, *How Effective is Strategic Bombing? Lessons Learned from World War II to Kosovo* (New York, 2001) and David MacIsaac, *Strategic Bombing in World War Two. The Story of the United States Strategic Bombing Survey* (New York, 1976).

with ideologically trained BDM girls in Kassel, but also specifically with (sometimes supposed) members of the German resistance such as Hanns Böckler or the mayor of Munich in the Weimar days, Karl Scharnagl. The answers of the interviewees were translated by coding personnel into a code which allowed to analyze and to present them statistically and made it possible to relate variables to each other: bomb tonnage to defeatism; degree of destruction to perseverance. The USSBS staff produced a total of 316 reports, which are still considered an invaluable source of information for the history of the Second World War, the “Third Reich” and Japan.¹⁵

The question which remained unanswered was which of the above-mentioned connections was actually causal. Did increased bombing inevitably lead to more defeatism, for example? This question was not easy to answer on the basis of the questionnaires and conversations, since Albert Speer had claimed in his interview that Nazi Germany could not have coped with a large number of major air raids like the one on Hamburg — but the answers of the “common people” suggested that once a certain degree of destruction has occurred, the negative effects on the “war morale” would not increase any further. The extent to which this uncertainty should be disclosed was the subject of lively debate between department heads and the Washington headquarters of the Survey. John Kenneth Galbraith considered the attacks on Nazi Germany a grandiose failure, since the economic power of the German Reich seemed to have increased until 1944. Paul H. Nitze was convinced that even more intense and sustained bombing of the German public utility infrastructure would have been necessary.¹⁶ He saw this assessment confirmed by Albert Speer (Minister of Armaments since 1942),

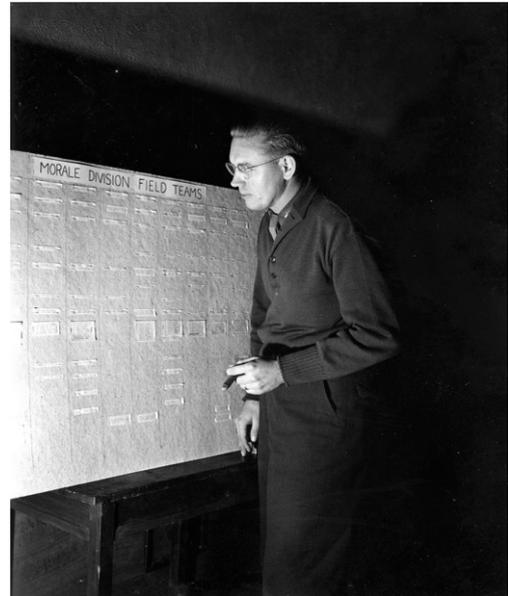


Figure 2. Big Science: The efficient deployment of numerous field teams had to be planned precisely. Bentley Historical Library, University of Michigan, Rensis Likert Personal Papers, Box 27, Folder “Morale Division Work in Japan 1945.”

» Looking back on the Vietnam War, he explained his skepticism about U.S. warfare with the same conviction: “For strategic bombing to be really, truly effective [it] comes to the horrible end of the spectrum, while not that much bombing, in some cases, [...] actually increased people’s determination.” Paul H. Nitze oral history interview, AFHRA, K239.0512-977, 1977-1981, cp 1, 01095290, 164.

15 An overview of these reports is available online at <https://babel.hathitrust.org/cgi/pt?id=uc1.c006010729&view=2up&seq=4> (last accessed 11/13/2020).

16 He saw this view confirmed by Albert Speer in an interview, see United States Strategic Bombing Survey, APO 413, Minutes of Meeting with Reichsminister Albert Speer, Flensburg,

May 22, 1945, John F. Kennedy Presidential Library, John Kenneth Galbraith Personal Papers, Box 5, Folder “United States Strategic Bombing Survey: Interview with Albert Speer,” 1f. »



Figure 3. Civilian and military personnel coding the interviews. Bentley Historical Library, University of Michigan, Rensis Likert Personal Papers, Box 27, Folder „Morale Division Work in Japan 1945“.

with whom an expert interview had been conducted. Rensis Likert and his Morale Division in turn observed fear reactions, despondency and resignation among the population, but the Morale Division in its internal communications made it unmistakably clear that no causal link could be established between the bombing and war fatigue.¹⁷

As mentioned above, the initiators of the USSBS also had Japan in mind from the beginning, where the air war only took on a systematic and frightening dimension with the firebombing of Tokyo in March 1945, but the end of the war was not yet foreseeable. When Japan finally capitulated in August 1945, the survey was extended to the Pacific theater of war. In Japan, the Survey believed that the tradition of work at home, the enormous importance of the collective and a reckless neglect of civil defense all had an impact on the civil population's morale during the war.¹⁸ All three conclusions were based, at least in part, on culturalist and tendentially racist arguments. Especially the reports produced in Japan contributed to undifferentiated resentment after 1945 about a supposedly "Asian" form of warfare that was to resurface in Korea and also in Vietnam. One assumption in particular continued to carry weight: that no distinction could be made between combatants and non-combatants on the basis of a strict concept of honor that demanded selfless sacrifice for one's country.¹⁹

17 On December 4, 1945 Harold Nisselson wrote to Burton R. Fisher: "No relation between bombing and loss from expectation." NARA, Microfilm Publication M1655, Roll 92, Reports 13a.1-14a.1(13).

18 See The United States Strategic Bombing Survey, *The Effects of Strategic Bombing on Japanese Morale*, (Washington, 1947), online at <https://babel.hathitrust.org/cgi/pt?id=mdp.39015002274416&view=2up&seq=8> (last accessed 11/13/2020).

19 On the Japanese theater of war, see Sheldon Garon, "Japan: der Krieg der anderen?", in *Eine Geschichte des Krieges. Vom 19. Jahrhundert bis in die Gegenwart*, ed. Bruno Cabanes (Hamburg,

2020), 624-638 as well as a report completed by Ruth Benedict in September 1945 for the Office of War Information: Report No. 25 Japanese Behavior Patterns by Ruth Benedict, 15.9. 1945, NA, Microfilm

Publication M1655, Roll 134. In this context, the following report is also interesting: Japanese Group Morale Attitudes, NA, Microfilm Publication M1655, Roll 92, Reports 13a. 1-14a. 1 (13).

Although all departments were thus observing the profound consequences of the air raids, it was still not clear how “strategic aerial warfare” had actually contributed to ending the war. Nevertheless, the Survey’s secretariat presented a final report claiming that the Air Force had decided the war.²⁰ The Secretariat in Washington avoided naming the controversies directly and spoke of the crucial



importance of strategic aerial warfare for the course of the war. Not all experts were happy with this. Galbraith in particular was furious that this was a falsification of the results.²¹ He met with little response, however. Overall, the USSBS as a large-scale research project had been satisfactory for all those involved: The generals had been given a helpful panorama of the effects of aerial warfare, the scientists had been able to combine ideal research conditions with new opportunities for influence, and the political leaders had a justification for the high costs of the war. The American public received the survey largely positively and also followed the interpretation of the final report.²² In 1947, the Air Force did indeed become an independent branch of the military.²³

Figure 4. Concerned about public image: The USSBS photographically records an interview situation in Japan. Bentley Historical Library, University of Michigan, Rensis Likert Personal Papers, Box 27, Folder “Morale Division Work in Japan 1945.”

The interests of the social scientists had thus proved to be compatible with those of military and political decision-makers. Cooperation,

20 The United States Strategic Bombing Survey, *Summary Report (European War)* (Washington, 1945), 15.

21 As early as June 1945, Galbraith, together with Nitze, advised the military leaders in Wash-

ington about worthwhile targets on the Japanese battlefield and pleaded against possible attacks on cities and for the bombing of transportation networks and critical economic infrastructure. He criticized the USSBS Secretariat’s draft for the

European final report as misleading and strongly advocated the intellectual honesty to name the weaknesses of American strategy, see Richard Parker, *John Kenneth Galbraith. His Life, His Politics, His Economics* (Chicago, 2005), 182f.

22 See the press clippings collection in NA, RG 243, Entry 1, Box 1.

23 Richard Overy, *Der Bombenkrieg. Europa 1939 bis 1945* (Berlin, 2014), 901.

24 On the relevant debates, which also inevitably dealt with the supposedly “socialist” agenda of the social sciences, see Gene Lyons, *The Uneasy Partnership: Social Science and the Federal Government in the Twentieth Century* (New York, 1969), esp. 144f. and Mark Solovey, “Riding Natural Scientists’ Coattails onto the Endless Frontier. The SSRC and the Quest for Scientific Legitimacy,” in *Journal of the History of the Behavioral Sciences*, 40, no.4 (2004): 393-422.

25 The U.S. Air Force placed its hopes above all in the concept of psychological warfare, see Arthur M. Johnson, “The Origin and Development of the United States Air Force Psychological Warfare Program 1946-1952,” June 1, 1953, AFHRA, K318.804-1, 1946-1952, 00495883, 1. But the tasks of the HRRI also included dealing with “military management, officer leadership, officer education, manpower, [...] strategic intelligence,” see note, Human Resources Research Inst., AFHRA, 239.1619-19, 1950-1951, 153572.

26 So far, there is hardly any research on the HRRI. For more on the history of the HRRI, see Dafinger, *Die Lehren des Luftkriegs*, 159-183.

27 On the debate about funding research in the social sciences in the U.S. after 1945, see Mark Solovey, “Riding Natural Scientists’ Coattails onto the Endless Frontier. The SSRC and the Quest for Scientific Legitimacy,” in *Journal of the History of the Behavioral Sciences*, 40, no. 4 (2004): 393-422; also more recently Mark Solovey, *Social Science for What? Battles over Public Funding for the “Other Sciences” at the National Science Foundation* (Cambridge, 2020).

however, required the continued active balancing of interests. More than once after the end of the war did the U.S. Congress question whether it was in the interest of a democracy to finance supposedly commissioned research for the armed forces.²⁴ Several hearings of experts before both chambers show that this field of politics and science was also characterized by considerable conflicts of objectives and that there was no agreement at all on central questions: What should war look like in the present, what should the “war of the future” look like, and with what objectives, strategies, costs and what means should it be waged? At the same time, the protagonists were struggling to determine the degree of influence these experts on violence should have. Negotiation processes and the active representation of their own interests were thus a crucial part of the shaping of the military and academic complex.

The two most important institutions in this context were the “Human Resources Research Institute” of the Air Force itself and the much better known RAND Corporation. The “Human Resources Research Institute,” HRRI for short, was attached to the “Air University,” a center for professional military education for prospective officers and established directly on an Air Force base in Alabama. Its — short — history shows that the U.S. Air Force, newly founded in 1947, was convinced after the war that social scientists had something substantial to contribute to modern warfare.²⁵ But its history also shows how fragile this cooperation actually was. Founded in July 1949, the HRRI was abolished in February 1954 due to budget cuts by Congress.²⁶ The most important reason for this was that the participating scientists did not succeed in communicating their relevance. To the Air Force, their work seemed to focus too little on its practical application. Congress, on the other hand, was of the opinion that the HRRI lacked distance from the Air Force and more generally, that far too much research was being funded for the military.²⁷ The HRRI was not the only research institute that received money from the Department of Defense. The RAND Corporation, for example, is still successful today with a completely different concept. From the very beginning, it attached great importance to describing itself as independent, while at the same time cultivating the image of a young, flexible, interdisciplinary and highly innovative research institute. Formally, RAND was indeed an independent think tank, but it was founded after the war in close cooperation with the Air Force and maintained close ties with its most important donor until the 1970s. Within the RAND Corporation, the Social Science Department, founded in 1949, began a secondary analysis of the USSBS and at the

same time promoted research on so-called psychological warfare. This sounded new, and in part it was actually about alternatives to bombing residential areas that might avoid bloodshed. However, the concept was controversial, and many believed that psychological warfare was really just old wine in new bottles.²⁸

When the next air war began in Korea in 1950, the air war experts were thus still at the beginning of their postwar work on the Second World War. Therefore, they made an effort to expand their knowledge on the ground and sent a small group of nine experts to Seoul as early as November 1950 to conduct interviews that were primarily intended to make psychological warfare more efficient. They therefore questioned prisoners of war about the effect of leaflets and North Korean refugees about the effects of the war on Communist rule. Field studies in North Korea, however, were not possible, so the work differed markedly from that of the USSBS. More importantly, the Air Force itself increasingly tried to avoid discussions about its “performance” in the Korean War. The generals were of the opinion that political guidelines had made their promising strategy, which included the use of nuclear weapons, impossible and thus undermined its effectiveness.²⁹ So if the Korean War is considered a “forgotten war,” this certainly applies to its internal evaluation. As a result, the air war doctrine of the Second World War and the empirical work of the USSBS remained the basis for future planning.

Thus the Vietnam War, too, began with heavy strategic bombardments. Already the Rolling Thunder air operation against North Vietnam (from March 1965 to 1968) was geared toward psychological effects and strategic results by trying to force negotiations.³⁰ The subsequent bombardment of supply routes between North and South Vietnam in particular, which lasted for years, fulfilled a similar function in agrarian Vietnam as the attacks on factories and the

28 The RAND Corporation has attracted a lot of attention from both contemporaries and researchers. See in particular Bruce L. R. Smith, *The RAND Corporation. Wissenschaftliche Politik-Beratung in den USA* (Düsseldorf, 1971); Fred Kaplan, *The Wizards of Armageddon* (New York, 1983); Martin J. Collins,

Cold War Laboratory. RAND, the Air Force, and the American State, 1945-1950 (Washington, 2002); Alex Abella, *Soldiers of Reason. The RAND Corporation and the Rise of the American Empire* (Boston, 2009). On the survival of military concepts of World War II, see also Sophia Dafinger, “Keine Stunde

Null. Sozialwissenschaftliche Expertise und die amerikanischen Lehren des Luftkrieges,” in *Zeithistorische Forschungen/Studies in Contemporary History*, 17, no. 1 (2020): 11-35, online at <https://zeithistorische-forschungen.de/1-2020/5809> (last accessed 8/25/2020).

29 Bernd Stöver, *Der Kalte Krieg. Geschichte eines radikalen Zeitalters 1947-1991* (Munich, 2011), 97.

30 Alexander Emmerich and Philipp Gassert, *Amerikas Kriege* (Darmstadt, 2014), 201.

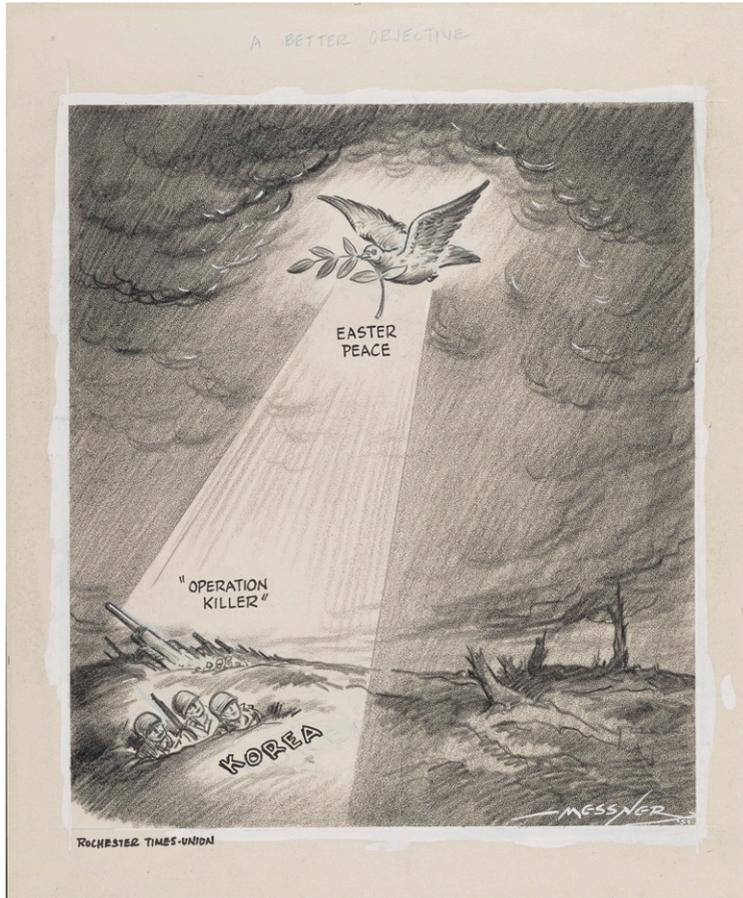


Figure 5: "A better objective." Cartoon by Elmer Messner, 1951. © Library of Congress.

lack of information about the effects of the bombing in North Vietnam, Gouré attempted to identify concrete starting points for military action against the Vietcong by the Air Force.

His conclusion that the Communist opponents were to be weakened by air strikes to such an extent that they would have to engage in peace negotiations did not go unchallenged within the RAND Corporation. Early on, two of his colleagues pointed out contradictions in the statements of the prisoners of war who were interviewed in large numbers for the project.³² Some RAND employees also saw the

railroad network in industrialized Europe. Military supplies to the front were to be stopped, while the constant attacks were also intended to erode the morale of the enemy. Studies and reports of the Vietcong Motivation and Morale Project, for which the RAND Corporation was responsible, supported the assumption that this was a wise strategy. Between 1965 and 1967 this project was led by Leon Gouré, a controversial member of the think tank who saw himself as a key consultant to the Air Force.³¹ Despite a lack of clarity on the war situation and a

31 On Gouré and the study he led, see Sophia Dafinger, „Wie tickt der Feind zur Krisenzeit? Der US-amerikanische Experte Leon Gouré im Kalten Krieg,“ in *Ost-europa* 67, no. 1-2 (2017): 131-42.

32 The accusations were mainly related to Gouré's sampling, which was

arbitrary in the eyes of his colleagues, see Mai Elliott, *RAND in Southeast*

Asia. A History of the Vietnam War Era (Santa Monica, 2010), 125.

problem that statements made by prisoners to American researchers were of little value for some questions.³³ But the Air Force was happy to hold on to the idea that it was possible to optimize desired effects of aerial warfare if only enough data were available.³⁴ This internal controversy reflected a growing fundamental unease about the Vietnam War among the American public. And indeed, the networks of aerial warfare experts eroded in the course of this war. This was partly because they could no longer ignore the moral dimension of strategic aerial warfare. On the other hand, it was simply because the Vietnam War made it abundantly clear that the vision of a fast, precise and seemingly “clean” air war was and remained a chimera from a military point of view as well. The 1970s therefore marked a turning point in the history of social science expertise on aerial warfare. Although it still exists today, it follows different rules.

What does the history of air war expertise show when one takes a step back and tries to abstract from the individual projects? Five observations can be highlighted:

First, the experiences of the Second World War shaped U.S. foreign and defense policy for several decades. This was not least due to the fact that the strategic air war revolutionized space and shifted the military front to the center of the belligerent societies. The Second World War thus led to an understanding of war as a state of society. In the USA there was talk of a “total war.” This meant that war was no longer the sole profession of the military, it now involved the entire society. Military and civilian life merged in a way that allowed unbounded violence that was hard to contain by international law. The “state” of society and the “war morale” of individuals thus became resources for warfare.

The Second World War also revolutionized the institutional system of science: it led to numerous large-scale interdisciplinary research projects, created new networks between science and politics, overturned the rules of research funding and influenced the development of (new) disciplines. In the United States, the experience with wartime “operations research” led to the establishment of new think tanks

33 Konrad Kellen in particular openly criticized Gouré, see Mai Elliott, *RAND in Southeast Asia. A History of the Vietnam War Era* (Santa

Monica, 2010), 23. On Kellen’s criticism regarding the interviews, see Konrad Kellen, “Conversations with Enemy Soldiers in Late

1968 / Early 1969. A Study of Motivation and Morale,” September 1970, RM-6131-1-ISA/ARPA, RAND Corporation Archives.

34 To this end, the Air Force itself set up a project called “Corona Harvest,” the aim of which was to secure as much data as possible, such as the number of aircraft, the type and degree of bombing, the distance covered, the losses suffered, the damage to equipment, etc. For example, some documents were microfilmed in the field and the collections were regularly brought to the USA, see Seventh Air Force, Operation Plan 540-69, Corona Harvest, 1 July 1968, AFHRA K740.32269-540, 1 Jul 1968, c. 1, 00525291, 2. From the collected data, a department of the Air University at the Alabama Air Force Base prepared corresponding reports. See *The Effects of United States Air Operations in Southeast Asia. Volume I: The Effects and Impact of United States Air Operations Against North Vietnam 1965-1968*, AFHRA, K717.6094, 1965-68, 1006904. Behind the whole project was the idea that in the future (processable) data would decide wars; see Antoine Bousquet, *The Scientific Way of Warfare. Order and Chaos on the Battlefields of Modernity* (London, 2009), esp. 126.

after 1945 where applied science flourished and was subsequently actively translated into the language of political and military decision-makers. Until the 1970s, aerial warfare experts continued to draw on the empirical studies carried out during the Second World War. In 1956, for example, an Air Force employee wrote an internal document expressing his displeasure that neither the strategies for air warfare nor the organizations involved in it had been adapted since the Second World War.³⁵ This was possible because conventional warfare — that is, a war without nuclear weapons — along with a policy of nuclear overkill remained the status quo. Its most modern weapons were fighter planes and bombers. In the classic narratives of the “Cold War” this dimension is often obscured. As a conflict between two opposing systems the “Cold War” is not a key factor in the history of aerial warfare expertise. Neither can the “Cold War” be understood as a trigger for the specific cooperation between science and politics, nor did this cooperation end in 1990 or 1991. Of course, the wars in Korea and Vietnam cannot be understood without their function as proxy wars and, as “hot wars,” are as much a part of the history of the “Cold War” as the constant threat of nuclear annihilation. Both were also linked in terms of the history of ideas since some of the air war experts did in fact work as nuclear strategists at the same time. Nor should we underestimate what it meant for the nascent Air Force as one branch of the military to have the majority of the country’s nuclear arsenal at its disposal. The resulting gain in power explains why projects dealing with nuclear war were generously funded in the first place. Nevertheless, the so-called proxy wars do not entirely fit into the logic of binary conflict. Above all, the experts on air warfare, most of whom found behaviorist forms of social research convincing, had an interest in not losing themselves completely in the trench warfare of the ideological conflict. For they modelled transferable concepts whose claim was to function for a wide variety of historical societies and were thus interested neither in the openness of historical situations nor in their specificity. Thus, in 1975 their consultancy based on empirical research still functioned according to the same principles as it did in 1945.

35 “[W]e are at present rigidly tied to World War II concepts, functions, and organizations.” NARA, RG 341, Entry P 516, Box 2, Folder: R&D 1-5 ‘An Optimum Unified Plan’ (1956).

My thesis of the formative power of the Second World War therefore also includes the observation that the “Cold War” as an analytical concept greatly narrows the view of the international history of the twentieth century, insofar as it is understood as a temporary “system antagonism” between the USA and the USSR. In this respect,

I argue that the Second World War should be taken much more seriously as an explanation for the international history of the second half of the twentieth century than is usually the case in classical studies of transatlantic history after 1945. By no means were the transatlantic partners completely caught up in the logics of an East-West antagonism as early as 1949, and if they were, they probably did not themselves see how present the early 1940s still were. This applies to the paths taken by science and planning on both sides of the Atlantic, but it applies above all to the foreign and defense policy of the new undisputed world power, the United States. It was the Second World War that significantly shifted ideas about legitimate wartime violence. Since the Casablanca Conference, civilians as pillars of the war economy and society were considered by the Allies to be militarily relevant and thus fundamentally legitimate targets of attack. And since the fascist Axis powers had been defeated, thus actually ending countless crimes against humanity by means of a “good war,” the military’s own role in this war remained largely unquestioned. After the end of the war, experts, the military and politics did not immediately question the new dimensions of strategic warfare. Only in this way can U.S.-American warfare in Korea and Vietnam be understood. A latent racism toward the population of “Asian” states, which found its basis in the expertise of the USSBS, reinforced the dissolution of the boundaries of wartime violence there.

Secondly, it is thus clear that a specific idea of “rational action” and the fact that the experts’ activities took place behind closed doors led to an increasing loss of inhibitions.³⁶ The historian of science Mitchell Ash uses this term to describe two things: both a growing self-restraint among scientists in the service of the so-called national cause and their increasing willingness to intensify the violence of war. In the United States in the 1940s — not least thanks to the USSBS — it was possible to avoid a debate on the legitimacy of aerial warfare. During and after the Second World War, only British society argued about the carpet bombing carried out by the Royal Air Force. In



Figure 6. “Silent night.” Cartoon by Edmund Duffy, 1951. © Library of Congress.

36 Mitchell G. Ash, “Wissenschaft — Krieg — Modernität: Einführende Bemerkungen,” *Berichte zur Wissenschaftsgeschichte* 19 (1996): 69–75, here 71.

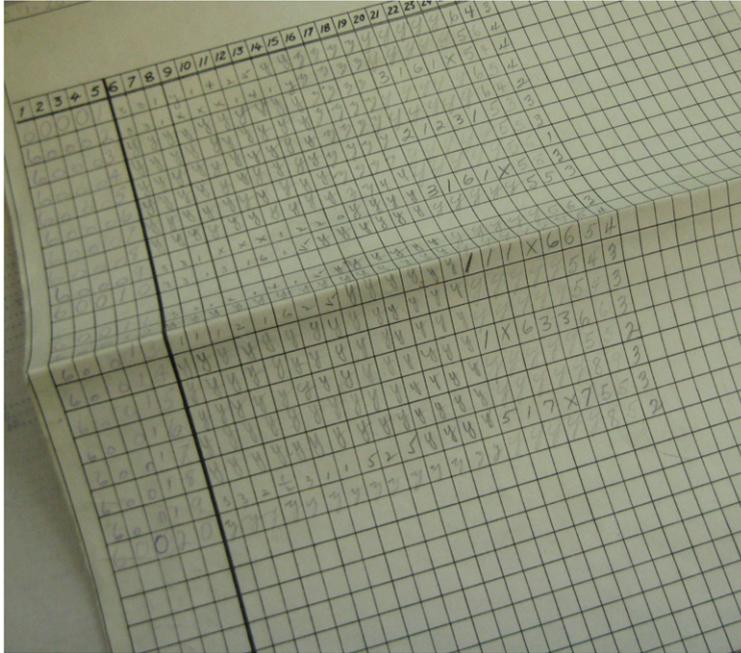


Figure 7. Turning a narrative into numbers: The USSBS Morale Division worked on the coding of answers. NA, RG 243, Records of the Office of the Chairman. Miscellaneous Records, 1940-47, Box 2.

the USA, on the other hand, the Army Air Forces understood how to communicate their role in the “good war” as appropriate to the situation. And even after the Second World War, the experts did not attack the prevailing air war doctrine. They held on to the silent agreement that strategic bombing of civilian targets could shorten wars and was therefore acceptable. Until conflict openly surfaced during the Vietnam War, they invariably pleaded for the further development of strategic air warfare, not for its banning. They unswervingly oriented their activities toward a guiding concept that fitted their understanding of “rational action,” namely that of efficiency. The costs of the war (which included the cost of materials, but also the cost of human lives on their own side) were to be minimized. At the same time they strove for the quickest possible victory. Human lives thus became a calculating factor.

Why a calculating factor? Because, and this is my third central thesis, air war expertise and the heightened profile of quantitative empirical social research went hand in hand. The social sciences, which had not yet been established as a discipline before the war, received attention and promotion because of the war. However, this did not apply to qualitative, but only to quantitative approaches to applied social research. Empirical research became increasingly important because, in analogy to the natural sciences, the social sciences also sought to and were expected to produce measurable quantities. Military and political decision-makers demanded clear results that they could use as a basis for their planning. The aerial warfare experts themselves met this demand in order to stabilize cooperation and consolidate their position — but also because they

shared a positivistic, future-oriented view of the world with the consumers of knowledge. They were convinced that the future could be shaped based on constantly expanding evidence and knowledge. The cooperation between the social sciences and politics thus fostered certain disciplines, methods and paradigms. Quantitative social research, behaviorism, cybernetic ap-

proaches — all of these were partly developed in the expert circles themselves, and in part war expertise helped these theories and methods to achieve a breakthrough. State funding should not be underestimated as a kind of indirect research support for these quantitative approaches. New research approaches, such as systems analysis, social and organizational psychology, trauma research, group sociology, and survey research, were advanced in the context of expertise for the state.³⁷ They continue to shape the modern social sciences today. Qualitative approaches to describing societies have remained marginal in comparison to generously funded interdisciplinary quantitative social research.

Fourth, this is not the real scandal of the social sciences' contribution to strategic bombing. What can be observed, however, and this is quite remarkable, is how the air war experts pushed a "technocratization" of government action without having to face the democratic debate themselves. The aerial warfare experts and their activities were part of a broader change in democratic planning and decision-making processes. Since the 1940s, scientific advice gained enormously in importance in the United States, until it came under fire during the Vietnam War in the late 1960s. Some air war experts themselves as well as anti-war activists and media representatives increasingly

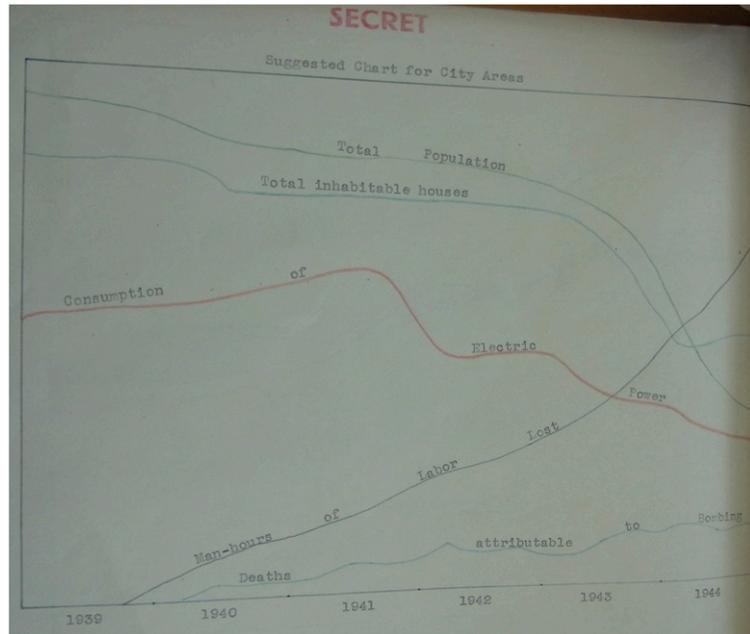


Figure 8. Draft of a possible presentation of social science findings in the USSBS: At what point does a society collapse under bombing?
NA, RG 243, Entry 1, Box 3: Office of the Chairman. General Correspondence 1944-1947, folder 063: Charts & Tables.

37 On the history of the social sciences after 1945, see *A Historiography of the Modern Social Sciences*, ed. Roger E. Backhouse and Philippe Fontaine (Cambridge, 2014).

questioned governmental decision-making, including the experts' advisory activities.³⁸ This criticism concerned both the quality of the expertise, which apparently did not help prevent the military disaster, and their blindness to moral issues. And indeed, the air war experts had concrete claims to shape the situation, which they derived from an elitist understanding of political rule. Planning with an inevitably normative quality was, however, communicated by them as simply logically compelling. Thus they claimed that their recommendations for action were un- or pre-political. They, as scientific experts, would, according to this narrative, merely present the existing options for action in all clarity.

In fact, the experts in their offices were more influential than they would have us believe. Looking back on their activities, indirect consequences that have shaped the so-called "West" become evident as well. The expertise of the social scientists formed powerful concepts of what constitutes modern societies and how they function. They questioned the pillars of social stability, they discovered phenomena such as trauma and resilience, they described fear reactions and studied gender roles. Group psychology also received decisive impulses from the air war expertise. In this way, defense policy research ultimately also influenced domestic policy. In their projects, some air war experts dealt with core questions of sociology: How do societies based on the division of labor function? What do classes, strata or milieus mean for the functioning of political and social systems? Gender issues were also considered and contributed to surprising results, such as the fact that fear reactions do not depend on gender.³⁹ Such research ultimately also affected American society. The fact that the quantitative social sciences were so strongly promoted in a military context meant that around 1950, for example, more literature on societies subjected to bombing was available than, for example, on flood disasters or devastating storms — with the result that the findings from wars fought far from home were used for domestic disaster policy.⁴⁰ This was a challenge for the democratic

38 Most notably among them was RAND employee Daniel Ellsberg, who had initially come to Vietnam as a convinced foreign policy "hawk," but also his colleagues Anthony Russo, Konrad Kellen, Melvin Gurtov, Oleg Hoefding, Arnold Horelick, and Paul F. Langer, who wrote an open letter to *The New York Times* in October 1969, in which they identified themselves as employees of the RAND Corporation and demanded an immediate withdrawal of American troops, see "Open Letter by Daniel Ellsberg, Melvin Gurtov, Oleg Hoefding, Arnold Horelick, Konrad Kellen and Paul F. Langer to *The New York Times*," October 8, 1969, <https://web.archive.org/web/20170219075956/www.ellsberg.net/documents/Letter.pdf> (last accessed 10/14/2020). See also Steven V. Roberts, "Six RAND Experts Support Pullout, Back Unilateral Step Within One Year in Vietnam," *The New York Times*, October 9, 1969, 9.

39 The question of the meaning of gender was raised above all during the Second World War, when the stereotype of the hysterical woman was particularly present, see Dietmar Süß, *Tod aus der Luft. Kriegsgesellschaft und Luftkrieg in Deutschland und England* (Munich, 2011), 387.

40 See Irving L. Janis, "The Psychological Impact of Air Attacks: A Survey and Analysis of Observation on Civilian Reactions During World War II," Memorandum for Rand Corporation, Crisis and Disaster Study of 15.01.1949, »

» RM-93, 1. On the work of "disaster experts" in the USA during the Cold War, see Cécile Stephanie Stehrenberger, "Systems and Organizations under Stress. Zur Geschichte der sozialwissenschaftlichen Katastrophenforschung

(1949-1979)," in *Zeit-historische Forschungen/ Studies in Contemporary History*, Online Edition, 11, no. 3 (2014): 406-424, <http://www.zeithistorische-forschungen.de/3-2014/id=5140> (last accessed 8/25/2020). The importance of the

Second World War for civil defense and disaster control after 1945 is also emphasized by Martin Diebel, *Atomkrieg und andere Katastrophen. Zivil- und Katastrophenschutz in der Bundesrepublik und Großbritannien nach 1945* (Paderborn, 2017).

constitution of the USA. For the public was not able to understand exactly what the experts did and how their expertise was used. For a long time they did not have to face a broad social debate. As a result, the evaluations, analyses and planning carried out in ministries, universities and think tanks under strict secrecy were not subject to democratic control.

Nevertheless, the history of expertise in aerial warfare is not a success story of any kind. Therefore my fifth thesis is this: The aerial warfare experts actually failed in their claim to be able to plan future aerial warfare precisely by means of a steady, evidence-based increase in knowledge. First of all, it is by no means possible to speak of a linear increase in knowledge or a steady “scientification” of aerial warfare. However, this was precisely the assumption of experts, politicians and the military. They all shared an idea of temporality, which ultimately assumed that situations would repeat themselves in one way or another in the future. They were therefore convinced that lessons could be learned from the past for planning future events. In fact, the illusion, actively maintained for decades, that many individual learning experiences would eventually lead to complete control over the consequences of aerial warfare points to the changing relationship between science and expertise in a democratic state. The promise to generate lessons was held up by the “air war experts” precisely because their status was fragile and had to be negotiated continuously. Secondly, the content of aerial warfare expertise was also ambivalent and always part of political and military strategic conflicts. Since the 1940s, air war experts have repeatedly formulated findings that should have fundamentally challenged strategic air warfare. Even the Morale Division of the USSBS had not been able to identify a compelling connection between strategic bombing and uncertainty, fear, fatalism or even resistance. However, this knowledge was marginalized and simply forgotten in practice.

Therefore, we still do not know when a society falls apart under bombing. But the history of aerial warfare experts can help us re-accentuating the transatlantic history of the twentieth century. It detaches itself from the narrowing of international relations after 1945 to the logics of the “Cold War,” especially the fixation on the atomic bomb. It shows how central the Second World War was for the United States and its defense policy. And it involves actors who are often missing in representations of foreign and defense policy: academics and experts. It thus links previously unconnected fields

WAR DEPARTMENT
NOTIFICATION OF PERSONNEL ACTION

Date: September 1, 1945

IDENTIFICATION NO. _____

NAME: Nitze Paul H. DATE OF BIRTH: 1-16-07

NATURE OF ACTION: Excepted Appointment

This action is subject to the provisions on the reverse hereof, when applicable. EFFECTIVE DATE: 9-1-45 FOR C. S. C. USE _____

NATURE OF EMPLOYMENT	FROM	TO
POSITION TITLE AND RESPONSIBILITY CODE		<u>Expert</u>
SERVICE GRADE AND SALARY		<u>\$25.00 per diem, W.A.E.</u>
FORCE, SERVICE OFFICE		<u>Office, Secretary of War</u>
DIVISION, BRANCH AND SECTION		<u>U. S. Strategic Bombing Survey Equipment Division</u>
DUTY STATION LOCATION		<u>WASHINGTON, D. C.</u>

REMARKS: Appointment is hereby approved for service not to exceed 180 days.

Figure 9. Well-known name, laconic job title: Paul H. Nitze's career as an "expert." Library of Congress Manuscript Division, The Papers of Paul H. Nitze, Box 165.

of research on international politics, the history of knowledge and science, and flight, exile and migration. It is also clear how close the transatlantic alliance was in the second half of the twentieth century — not only because the FRG was esteemed by the United States as a dependent and loyal partner in the conflict between two superpowers. Rationality, planning and control were regarded as a sensible basis for democratic politics in both countries, and this was by no means an “American” development that was merely adopted on the other side of the Atlantic, but a common development whose roots lay in the war of annihilation unleashed by Nazi Germany.

Until the Vietnam War, when public protests led to major upheavals, the cooperation described above between the social

sciences, the Department of Defense and the U.S. Air Force worked. Air war experts rationalized attacks on civilian targets to such an extent that they could long appear legitimate to all those involved. In the transatlantic world, listening to experts and taking their knowledge into account in political decisions was a normality for several decades, no matter how fiercely contested. We should therefore not underestimate their importance and continue to research their work for think tanks, armed forces, ministries and governments. The concept of the expert as mediator, coined by Nico Stehr and applied usefully to historiography by Margit Szöllösi-Janze, still seems to me to make sense in this context.⁴¹ If one looks at what scientific innovation meant in concrete terms, what consequences it had, one also comes across the “dangerous suggestions”⁴² inherent in the experts’ promise to make strategic air warfare predictable. That the cohesion of enemy societies was vulnerable if the bombs hit the right targets at the right time — this assumption was based on a simplified picture of societies and historical constellations. Nevertheless, the experts’ promise of being able to control highly complex interrelationships is still effective today.

The experts of the current pandemic can also claim to have used their knowledge to enable governments to manage a situation that

- 41 See Margit Szöllösi-Janze, *Fritz Haber 1868-1934. Eine Biographie* (Munich, 2015) and Margit Szöllösi-Janze, „Wissensgesellschaft in Deutschland. Überlegungen zur Neubestimmung der deutschen Zeitgeschichte über Verwissenschaftlichungsprozesse,” *Geschichte und Gesellschaft* 30 (2004): 277-313. See also Nico Stehr and Reiner Grundmann, *Expertenwissen. Die Kultur und die Macht von Experten, Beratern und Ratgebern* (Weilerswist, 2010).
- 42 Herfried Münkler, *Kriegsplünder. Die Evolution der Gewalt im 20. und 21. Jahrhundert* (Reinbek, 2016), 140.

societies would otherwise be facing unprepared. Nevertheless, something has changed. On the one hand, this change may be welcome if it means that a critical and pluralistic public demands a democratic debate on supposed inevitable constraints. The German example shows that the vast majority of the public takes those scientists seriously as experts who openly communicate their knowledge but also the limits of their work. Today, experts act in front of a public that cannot be ignored by politicians in their decision-making. Women, too, are now accepted in greater numbers as experts based on their research, even if they are still clearly underrepresented in a profession in which the attribution of competence is decisive. The fact that even the humanities and natural sciences, in the face of Covid-19, are clearly revealing the ambivalences and gaps in their research is certainly evidence of a changed relationship between democratic societies and their elites, and it is also an expression of a new self-image of the scientists and experts themselves. They formulate in all clarity that knowledge cannot replace political decisions, but can only point out known conditions and consequences. At the same time, however, and this development is worrying, the year 2020 shows very clearly what happens when governments misunderstand this new restraint by acting as if there was no verifiable knowledge at all, as if one's responses to the world's challenges were variable at will. The fact that the USA, the oldest democracy in modern times, seemed to consider scientific expertise to be negligible during the first peak of the health crisis is particularly remarkable in view of the history of evidence-based planning. It is to be hoped that this attitude will not form a precedent.

Translated by Insa Kummer

Sophia Dafinger works as an academic councilor at the Chair of Modern and Contemporary History at the University of Augsburg. Her dissertation, for which she received the 2018 Mieczysław Pemper Research Prize, was recently published as *Die Lehren des Luftkriegs: Sozialwissenschaftliche Expertise in den USA vom Zweiten Weltkrieg bis Vietnam* in the GHI's „Transatlantic Historical Studies“ Series with the Franz Steiner Verlag. She is currently researching the history of solidarity.

