THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Cognitive artefacts:

Remaking economies, 1917 - 1947

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Declaration

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Acknowledgements

Abstract

The thesis investigates how political actors remade key aspects of Europe's economic landscape after World Wars I and II. The first and the second case deal with the borders of the Polish state; the third case investigates German reparations after World War I; the fourth case looks at the internal processes of the American administration in dealing with Germany's reconstruction after World War II.

The thesis argues that actors remade Europe's economy by using cognitive artefacts, such as cartographic maps, statistical tables or accounting procedures. Because cognitive artefacts are explicit where written and spoken statements are vague, they complement and expand the textual and verbal record. One of the consequences is that we gain a different perspective of the performance of political actors, which leads to a re-evaluation of diplomacy after World War I. It has received a largely negative appraisal so far. That seems rather disproportionate if due consideration is given to cognitive artefacts.

Moreover, the analysis of cognitive artefacts shows that the results actors achieved, were not solely outcomes of rationality or policy discourse. Actors used maps, statistical tables etc to develop jointly ad hoc ways of reasoning that were synthetic, open-ended and considerably nuanced. Therefore, the thesis proposes cognitive artefacts as an analytical framework for political agency. By producing, circulating, rejecting and modifying them in an iterative process, actors identify and structure their individual and their joint agency. As actors go through this process, their cooperation as well their noncooperation take shape. In using cognitive artefacts, actors are at the same time aligning and legitimising their agency. That involves persuasion, coercion and deceit, but not necessarily shared views.

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ACC	Allied Control Council
ADDF	Archives diplomatiques de France
APC	Agence Polonaise Centrale
BAK	Bundesarchiv Koblenz
CA	Cognitive artefact
EAC	European Advisory Commission
F&A	Food & Agriculture Division of OMGUS
FRUS	Foreign Relations of the United States
JCS	Joint Chiefs of Staff
KNP	Polish National Committee (Polish: Komitet Narodowy Polski)
LSEA	London School of Economics Archives
MCC	Ministerial Collecting Center
NARA	National Archives and Records Administration, US
NAUK	The National Archives of the UK
OMGUS	Office of the Military Government for Germany, United States
PH&W	Public Health & Welfare Division of OMGUS
PPC	Paris Peace Conference
SHAEF	Supreme Headquarters Allied Expeditionary Force
USGCC	US Group Control Council

1 Introduction

Contents

This study revisits four instances of high-level diplomacy between 1917 and 1947 that determined basic features of the economic landscape after World Wars I and II. The first and the second case investigate the borders of the Polish state after the two wars; the third case deals with Germany's reparations after 1918; the fourth case looks at the American administration's internal processes of dealing with Germany's reconstruction after World War II, see fig. 1.1, p. 13.

Why revisit these extensively covered moments in history? What is it that scholarship so far has not told us? We know a great deal about the diplomatic actors that were involved and the conditions under which they acted. We know their relative power, their political goals and strategic interests, even their personalities and the lunches they took. Equally, we know the diplomatic outcomes they produced. The Polish border was fixed in a concrete place eventually. The process, however, by which diplomatic results were achieved has remained rather obscure. Did diplomats calculate the location of the border? If so, what was the formula? Or was the border the consequence of applying political ideas and principles? Again, what were those ideas? I will show that outcomes were neither determined by political ideas nor by calculations. Such elements were part of the process, e.g., the idea of separating ethnicities by borders or the calculation of war damages to get at Germany's reparation

Figure 1.1: Structure of thesis

obligation. I argue, however, that actors arrived at concrete results through *cognitive artefacts* like maps or statistical tables.

This introduction is structured as follows. In the first section I give an overview of the historical cases and the actors that were involved. The second section discusses the notions of political agency that are put forward by the two broad strands in the institutionalist political economy literature. I argue that they cannot explain concrete diplomatic outcomes because their accounts of political agency are inadequate. In the third section I motivate why this study is looking to maps, statistical tables and the like to get insight into political agency. I introduce the notion of cognitive artefacts and, to stake out the conceptual domain in which they are located, discuss several theoretical elements from the sociology of scientific knowledge. These elements will serve to differentiate and refine the notion of cognitive artefacts in the case studies.

1.1 Diplomacy and the remaking of economies, 1917 - 1947

State borders in Europe changed frequently between 1914 and 1945, testifying to underlying political, social and economic conflicts. Arguably, the Polish experience was the most extreme with respect to borders. Norman Davies (2005) titled his history of Poland *God's Playground.*[1] Poland had disappeared as an independent state at the end of the 18th century, when she was partitioned by Prussia, Austria-Hungary and Russia. Poland was reborn in the years after the Great War. Her borders were determined after the armistice between the Allies and Germany on 11 November 1918.[2] The western border was settled in a diplomatic process that began in early 1917 and ended with the Versailles Treaty in June 1919. The eastern border was determined by the Polish Army in the Polish-Soviet War that ended with the Treaty of Riga on 18 March 1921. The

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[1] Norman Davies, *God's Playground: A History of Poland* (New York, NY: Columbia University Press, 2005).

[2] Nominally, the United States were an Associated Power, not one of the Allies. I include the United States into the Allies though.

focus of the first case is the diplomacy leading to Poland's border with Germany. This process had four key actors. The American President Woodrow Wilson, Britain's Prime Minister Lloyd George, French President Georges Clemenceau and Roman Dmowski, Polish exile politician and Head of the Polish Delegation at the Paris Peace Conference. They were supported by other high-ranking politicians, advisers, diplomats and technical experts.

In 1939 Germany and the Soviet Union occupied and partitioned Poland again, but she re-emerged over the course of World War II. Her borders shifted westwards though, roughly losing a third of her territory to the Soviet Union and gaining a third from Germany. This is the subject of the second case. Winston Churchill, British Prime Minister and one of the main actors, compared the territorial shift to a soldier performing the drill left-close. The main actors were the heads of state of the Grand Alliance, the coalition fighting Nazi Germany. These were, in addition to Churchill, American President Franklin D. Roosevelt and Joseph Stalin, General secretary of the Central Committee of the Soviet Union. Advisers and experts were part of the diplomatic process as well.

The years between 1914 and 1945 witnessed deep economic disruptions. Both wars destroyed human capital and physical assets and challenged existing patterns of economic integration. In the First World War, according to Jari Eloranta and Mark Harrison (2010), some countries lost up to 7.2% of their human capital (France) and 54.7% of their national wealth (Germany); in the Second World War the Soviet Union lost approximately 19% of her human capital and 25% of her national wealth.[3] After the wars, these damages raised compensation and international economic recovery as diplomatic issues. In both instances the focus was on Germany. She had started and lost both wars and therefore bore disproportionate responsibility for the damage in the eyes of the winners. Moreover, Germany was at the centre of intra-European division of labour.

The third case focuses on the diplomacy during 1920/21 over Germany's reparation payments. In 1918, immediately after the war, the US had set German

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[3]Jari Eloranta and Mark Harrison, 'War and disintegration, 1914-1950', chap. 6 in *The Cambridge Economic History of Europe, 1870 to the Present*, ed. Stephen Broadberry and Kevin H. O'Rourke, vol. 2 (Cambridge: Cambridge University Press, 2010), pp. 149-50.

reparations as the main item of the diplomatic agenda. The US had financed the Allies during the war and insisted that loans were repaid in full, \$9.5bn in total. The bulk had gone to Britain, \$4.9bn, and France, \$4bn.[4] Britain was herself a net creditor, but her main debtors were hard-pressed for money. Russia's debt to Britain were \$2.7bn, France's \$2.1bn and Italy's \$2.0bn.[5] Defaulting on their American loans was neither an option for Britain nor France and resistance to domestic taxation mounted quickly, leading to reparation demands. The main actors were Britain's Lloyd George and French Prime Minister, later President, Alexandre Millerand, both supported by financial experts. Formally, there was no American representative because Congress never ratified the Treaty of Versailles. Moreover, reparation politics had a strong public dimension because the popular press in France and Britain paid close attention.

The fourth case investigates the internal diplomacy of the US administration in 1945/46. The question was which role Germany's economy should play in Europe's recovery, hence what kind of occupation policy the US should pursue. The main actors were the Washington administration and high-ranking officials in the American military administration in Germany, such as Lucius D. Clay, Deputy Military Governor, William H. Draper, Director of the Economics Division, and Bernard Bernstein, Director of the Finance Division. They were supported by various units. International coordination over reparations was only a minor issue after World War II, not least because each of the Allies controlled a zone of occupation. There, according to John Gimbel (1990), they could 'exploit and plunder as they liked'.[6] According to Adam Tooze (2006), it is 'one of the

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[4]Stephen Broadberry and Peter Howlett, 'The United Kingdom during World War I: business as usual?', chap. 7 in *The Economics of World War I*, ed. Stephen Broadberry and Mark Harrison (Cambridge: Cambridge University Press, 2005), 206–232, pp. 221-1; Pierre-Cyrille Hautcoeur, *Was the Great War a watershed? The economics of World War I in France*, ed. Stephen Broadberry and Mark Harrison (Cambridge: Cambridge University Press, 2005), 169–205, p. 191.

[5]Broadberry and Howlett, 'The United Kingdom during World War I', pp. 221-2.

[6]John Gimbel, *Science, Technology and Reparations: Exploitation and Plunder in Postwar Germany* (Stanford, CA: Stanford University Press, 1990).

most persistent myths' that the quarrels after 1918 had taught the Allies not to extract reparations.[7]

1.2 Political agency and institutionalist political economy

To understand diplomatic processes it is helpful to have a notion of political agency. Which frameworks are there to conceptualise what political actors do? How do actors achieve concrete results? There are two broad strands in the institutionalist political economy literature: rationalist and historical institutionalism. The former provides an account of political agency that is based on individual rationality. The latter conceives political agency as outcome of a social process that provides agents with options for action. I argue that neither framework allows us to explain how Wilson, Lloyd George, Clemenceau and all the others achieved the results they did.

Rationalist institutionalists, such as Douglass C. North (1997), maintain that humans have created and used institutions to structure interaction 'in a world of uncertainty'.[8] That is, institutions are an extension of rationality which in turn presupposes individual choice and agency.[9] In such a framework North, John Joseph Wallis and Barry Weingast (2009) are examining the relationship between the social order of states and their economic development. They distinguish between 'natural states' and 'open access orders' and argue that only the latter

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[7]Adam Tooze, *The Wages of Destruction: The Making and Breaking of the Nazi Economy* (London: Penguin Books, 2006), p. 673. A detailed discussion of reparations for the western zones is Werner Plumpe, 'Die Reparationsleistungen Westdeutschlands nach dem Zweiten Weltkrieg', in *Die Wirtschaft im geteilten und vereinten Deutschland*, ed. Karl Eckart and Jörg Roesler (Berlin: Duncker & Humblot, 1999), 31–46, for the eastern zone in Jochen Laufer, 'Politik und Bilanz der sowjetischen Demontagen in der SBZ/DDR 1945-1950', in *Sowjetische Demontagen in Deutschland 1944-1949: Hintergründe, Ziele und Wirkungen*, ed. Rainer Karlsch, Jochen Laufer and Friederike Sattler (Berlin: Duncker & Humblot, 2002), 31–77.

[8]Douglass C. North, 'Prologue', in *The Frontiers of the New Institutional Economics* (London: Academic Press, 1997), p. 6.

[9]This rationalist conception of institutions can also be found in Judith Goldstein and Robert O. Keohane, eds., *Ideas and Foreign Policy: Beliefs, Institutions and Political Change*, Cornell Studies in Political Economy (Ithaca, NY: Cornell University Press, 1993).

are capable of sustained economic development.[10] Natural states control violence by allocating rents to members of the elite, a process based on personal relationships. Open access orders, in comparison, control violence through an impersonal process of economic and political competition. North et al explain political agency in either social order through the rationality of agents. The authors argue that individuals 'are trying to accomplish the best outcomes with their limited resources and choices'.[11] That is, individuals are rational and intentional within the boundaries of what they know and believe. Knowledge and beliefs in turn follow from experience and education.

For historical institutionalists, actors have political agency within a realm of policy discourse. Peter A. Hall (1993) argues that this realm is usually rather stable and consists of a 'framework of ideas and standards'.[12] These amount to a 'policy paradigm', modelled on Kuhn's notion, that specifies the goals and means of policy as well as the nature of the problem policy addresses.[13] Hence a policy paradigm presents agents with a certain set of options, such as Keynesian macroeconomic policy in Britain in the first decades after 1945. The political agency of an actor consists in choosing from a set of options that a policy paradigm makes available.

We begin to see the limitations of the rationalist and the historical framework under conditions of informational uncertainty or when there is no political room for manoeuvre. How do we account for political agency when rational considerations are inconclusive? What do political actors do if the policy paradigm presents them with no options at all or offers only choices that are infeasible or socially unacceptable?

North et al acknowledge that there are limitations to rationality where 'changes in the environment are novel, without precedent' and therefore require a

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[10]Douglass C. North, John Joseph Wallis and Barry R. Weingast, *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History* (Cambridge: Cambridge University Press, 2009), pp. 18-22.

[11]Ibid., p. 28.

[12]Peter A. Hall, 'Policy Paradigms, Social Learning and the State: The Case of Economic Policymaking in Britain', *Comparative Politics* 25, no. 3 (April 1993): p. 279.

[13]Ibid.

'changing structure of human interaction'.[14] To understand agency under these circumstances, they argue, a 'necessary preliminary is to understand how the brain interprets signals received by the senses and how the mind structures the result into coherent beliefs'.[15] Similarly, Goldstein and Keohane argue that ideas work like 'road maps' that 'clarify causal principles and conceptions of causal relationships'; as such, ideas are forerunners of institutions and 'continue to guide action' once they are 'institutionalised'.[16]

In dealing with limitations of rationality, the rationalist approach moves into the domain of the neurosciences. North et al admit that it is unclear if the neuro-economic ideas they postulate even exist or how they might be formed. More problematic from the perspective of social sciences and history though is what the rationalist approach disregards by postulating subconscious micro-economic ideas: there is a broad range of things that political actors do under uncertainty. They reason, tinker and coordinate. Robert Bates (2010) makes the same point and argues that North et al miss out on 'micro-reasoning' and the role it plays for 'active agents'.[17]

The historical approach recognises that political agency becomes increasingly difficult when the discourse changes that underpins the policy paradigm or when anomalies occur, such as stagflation.[18] This reduces and obfuscates the options of agents. Examples are Hall's own account of stagflation and British economic policy in the 1970s or the work of Mark Blyth (2002).[19] Hall's proposed solution is that intellectual and political competition eventually bring about the shift to a new policy paradigm. As a consequence the mode of policy-making changes and a

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[14]North, Wallis and Weingast, *Violence and Social Orders*, p. 251.

[15]Ibid.

[16]Goldstein and Keohane, *Ideas and Foreign Policy*, pp. 5-8.

[17]Robert Bates, 'A Review of Douglass C. North, John Joseph Wallis, and Barry R. Weingast's *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History*', *Journal of Economic Literature* 48, no. 3 (2010): p. 755.

[18]Hall, 'Policy Paradigms, Social Learning and the State', pp. 283-5.

[19]Mark Blyth, *Great Transformations : Economic Ideas and Instutional Change in the Twentieth Century* (New York, NY: Cambridge University Press, 2002). Another example is James A. Morrison, 'Before Hegemony: Adam Smith, American Independence, and the Origins of the First Era of Globalization', *International Organization* 66, no. 3 (2012): 395–428.

different set of options, larger and well defined, becomes available to
agents.[20]

In democratic spheres the notion of a paradigm shift works well to explain
political agency at a high level. Different policy paradigms such as Keynesian or
monetary macroeconomics make different sets of policy options available. Hence
they change the political agency of actors. The transition from one paradigm to
another and the link between a paradigm and actual policy-making are
underdetermined though. Hall envisions and exemplifies the paradigm change
through intellectual and political competition in democracies. It is not clear
though whether that applies to non-democratic spheres as well, such as
international diplomacy. And while Hall outlines two procedural adjustments to
policy-making within a paradigm, first- and second-order change, there is no
account of how a paradigm might become operational in the first place.[21]

Rationalist and historical institutionalism allow only incomplete explanations of
high-level diplomacy. The former postulates neuro-economic cognition and
thereby disregards the things that political actors actually do. The latter relies on
a democratic social process that does not fit with international diplomacy.

1.3 Cognitive artefacts

How can maps or statistical tables give us better accounts of high-level
diplomacy? In the previous section we have identified shortcomings in rationalist
and historical institutionalism, so we can specify the positive conceptual features
that we would like a framework of political agency to have. First, it should allow
for individual and collective micro-level reasoning of actors, without demanding
or presuming rationality. Second, it should allow for actors developing ad hoc

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[20]Hall, 'Policy Paradigms, Social Learning and the State', pp. 286-7.

[21]ibid., pp. 281-3. Recent re-evaluations of Hall's notion with a different focus are: Pierre-Marc
Daigneault, 'Reassessing the concept of policy paradigm: aligning ontology and methodology
in policy studies', *Journal of European Public Policy* 21, no. 3 (2014): 453–469; Sebastiaan
Princen and Paul 't Hart, 'Putting policy paradigms in their place', *Journal of European Public
Policy* 21, no. 3 (2014): 470–474; Frank R. Baumgartner, 'Ideas, paradigms and confusions',
Journal of European Public Policy 21, no. 3 (2014): 475–480.

solutions, without reducing the solution to one of several options predetermined by some discourse.

We learn a fair amount about the reasoning of actors by examining the things they say and write. That is the traditional domain of diplomatic history, but it has to mitigate several problems. Most obviously, actors do not necessarily mean the things they say and write and the other way around. Moreover, there is the challenge of accessing and handling those statements that actors make off the record, the thoughts that remain unsaid and the emotions that have an effect as well. Hence pinpointing how a diplomatic result came about is often impossible. If we turn to maps, statistical tables and the like, we might be able to avoid a great deal of these problems. To indicate why and how, I want to draw broadly on the first case.

The Polish-German border was fixed in the Treaty of Versailles in June 1919. Part of the Treaty was a map that showed the new border.[22] That border was not transferred onto a map once Wilson, Lloyd George and the others had an agreement. The actors developed their agreement, and thereby the border, by arguing over a sequence of preliminary maps. Moreover, the arguments that actors made were not external to these preliminary maps. Actors built their arguments into the maps. The same applies to statistical tables and other things that are often inadequately itemised as 'evidence'. Wilson, Dmowski etc argued through maps and the like just as much as they argued through verbal and written statements. Above, we have outlined the difficulties specific to investigating the reasoning of actors through language. We have a good chance of avoiding these difficulties by turning to maps and statistics because they are non-linguistic.

The term cognitive artefacts has first been coined by Donald A. Norman (1991) in the cognitive sciences and computer science.[23] Norman applies the term

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[22]In fact, there were a number of maps. Large scale maps showed the border in its entirety. Small scale maps showed the border in specific locations like Danzig.

[23]Donald A. Norman, 'Cognitive Artifacts', chap. 2 in *Designing Interaction : Psychology at the Human-Computer Interface*, ed. John M. Carroll, Cambridge series on human-computer interaction (Cambridge: Cambridge University Press, 1991), 17–38.

broadly to 'artificial device[s] designed to maintain, display, or operate upon information in order to serve a representational function', objects that are as diverse as graphs, maps, diagrams, books and notebooks.[24] Norman (1992) proposes 'design principles' for cognitive artefacts.[25] Since then, the term is employed predominantly in a context that is concerned with designing systems, interfaces and process management.[26] Moreover, an anthropological study (Enfield, 2005) argues that the human body should be considered a cognitive artefact as well and in the history of science the term is applied to Faraday's laboratory environment (Tweney and Ayala, 2015).[27] Nathaniel T. Wilcox (2008) uses the concept in arguing against neuroeconomics and advocating a process of social cognition.[28] Philosopher Richard Heersmink (2013) proposes a 'taxonomy' of cognitive artefacts. He defines cognitive artefacts even more broadly than Norman, as 'human-made, physical objects that functionally contribute to performing a cognitive task'.[29] Heersmink (2015) discusses moral aspects of cognitive artefacts, too.[30]

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[24]Norman, 'Cognitive Artifacts', p. 17, 21, 30, 33.

[25]Donald A. Norman, 'Design principles for cognitive artifacts', *Research in Engineering Design* 4, no. 1 (1992): 43–50.

[26]For computer science, see: C. Garbis, 'Exploring the Openness of Cognitive Artifacts in Co-operative Process Management', *Cognition, Technology & Work* 4, no. 1 (2002): 9–21; John M. Carroll, Marcela Borge and Shin-I Shih, 'Cognitive artifacts as a window on design', *Journal of Visual Languages and Computing* 24, no. 4 (2013): 248–261. For health care, see: Christopher P. Nemeth et al., 'Using cognitive artifacts to understand distributed cognition', *IEEE Transactions on Systems, Man, and Cybernetics Part A: Systems and Humans.* 34, no. 6 (2004): 726–735; Rebecca Randell et al., 'Beyond handover: supporting awareness for continuous coverage', *Cognition, Technology & Work* 12, no. 4 (2010): 271–283. For institutions more generally, see: Masahiko Aoki, 'Institutions as cognitive media between strategic interactions and individual beliefs', *Journal of Economic Behavior & Organization* 79, nos. 1-2 (2011): 20–34.

[27]N. J. Enfield, 'The Body as a Cognitive Artifact in Kinship Representations', *Current Anthropology* 46, no. 1 (2005): 51–73; Ryan D. Tweney and Christoper D. Ayala, 'Memory and the construction of scientific meaning: Michael Faraday's use of notebooks and records', *Memory Studies* 8, no. 4 (2015): 422–439.

[28]Nathaniel T. Wilcox, 'Against Simplicity and Cognitive Individualism', *Economics and Philosophy* 24, no. 3 (2008): 523–532.

[29]Richard Heersmink, 'A Taxonomy of Cognitive Artifacts: Function, Information, and Categories', *Review of Philosophy and Psychology* 4, no. 3 (2013): p. 465.

[30]Richard Heersmink, 'Extended mind and cognitive enhancement: moral aspects of cognitive artifacts', *Phenomenology and the Cognitive Sciences*, November 2015,

I want to claim cognitive artefacts for history and the social sciences and develop them into a framework for understanding political agency. To that end I adopt the notion introduced by Norman, but I interpret it more narrowly. To me, cognitive artefacts are objects like maps, statistical tables and graphs. Cognitive artefacts relate to aspects that political actors are dealing with, such as states, populations, territory, resources, national wealth etc. Cognitive artefacts in part consist of written words or short text, such as the headers of a table or the legend of a map. Longer written documents, however, do not usually qualify. Like spoken words, written diplomatic documents are ambiguous to begin with. Their ambiguity is heightened further when they are translated, e.g., from English into French. In comparison, ambiguity and translation are much smaller problems for cognitive artefacts. There are visual, numerical and hybrid artefacts. Numerical artefacts are sets of numbers that are logically and spatially assembled, for example in a statistical table, or linked up by a narrative. Numerical artefacts relate quantitative dimensions to each other. Visual artefacts, in particular maps, place aspects into a spatial relationship. Numerical-visual hybrids, such as data maps, relate quantitative and geographic dimensions to each other.

More importantly though, I argue that cognitive artefacts have an internal structure that allows political actors to reason, communicate and collaborate. Cognitive artefacts are complex. They are usually made up of numerous elements and have many features. In the case of a map these features correspond with the visual and logical elements from which the map is composed, e.g., the location of an army as green shading or the coast as a black line. The features of a numerical artefact correspond with the values and units of its numbers and the links between numbers, e.g., gold marks and the linkage between war damages and reparations.

Different features of a cognitive artefact have a different status. A feature can either be rigid, flexible or stabilised. Usually, in a map we would think of a river as rigid and see the location of an army as flexible. An example for a stabilised feature would be a political border. It is neither rigid nor flexible by itself, but derives its stability from other features, e.g., from the course of a river or an army. In a political process features are not evidently rigid, flexible or stabilised.

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Their status varies from actor to actor and depends on interests, power, ideas etc. Moreover, their status can change. Rivers can be diverted, armies can become a permanent occupation force, political borders can shift or disappear.

An actor establishes his scope of agency by categorising features into rigid and flexible and by assessing how and to which degree they stabilise other features. When an actor treats a feature as rigid, he decides to see it as an aspect that cannot be changed on the ground. All rigid features taken together establish the outer limits of his agency. In contrast, a feature treated as flexible is an aspect that is seen as changeable. Flexible features represent the available options for agency. In this way, the rigid features of an artefact circumscribe an actor's political room of manoeuvre and the flexible features structure it internally.

A negotiated diplomatic outcome, such as a political border or a reparation obligation, is a stabilised feature. As long as actors have different scopes and structures of agency, they disagree on the stabilised feature, too. For example, Wilson, Lloyd George and the other actors saw the new Polish border in different places. Moreover, they disagreed if and to which degree the border would be stabilised by the Polish army, Allied military guarantees to Poland against Germany, the ethnicity of the population, natural frontiers like rivers etc. That is, actors in a diplomatic process begin with dissimilar cognitive artefacts. As they are grinding out their joint scope of agency though, they develop joint cognitive artefacts. Finally, when actors come to an agreement, the stabilised feature takes up one specific and permanent place. When Wilson, Lloyd George, Clemenceau and Dmowski agreed on the border, that line on the map no longer shifted. When Lloyd George, Millerand and Allied financial experts agreed on Germany's reparation obligation, the value of that number in the numerical artefact no longer fluctuated.

Actors are aligning their agency in developing a joint cognitive artefact. How that happens exactly though is hard to say without detail knowledge. When actors align their agency, are they aligning their interests as well? Are they developing shared views? Rather than speculating about answers, I want to introduce three theoretical elements from the sociology of scientific knowledge and apply them in

a general manner. In the cases, these elements will help us to further develop the notion of a cognitive artefact and return more systematically to these questions.

The first theoretical element is 'boundary objects' by Susan Star and James Griesemer (1989).[31] The analytical interest of Star and Griesemer is to understand how cooperation and heterogeneity can coexist.[32] That fits with the conditions under which actors come together in the processes we are interested in. Wilson, Clemenceau etc had different interests and views, but they had to cooperate on a concrete problem. Star and Griesemer maintain that 'consensus is not necessary for cooperation, nor for the successful conduct of work'.[33] Their boundary objects achieve cooperation through a multi-way translation of the findings of different actors, located in different social spheres, carried out with different interests, into an emergent whole. Boundary objects do not require a consensus, but some overlap of spheres. Boundary objects work as means of cooperation when they build on that overlap. Do cognitive artefacts share these characteristics? Cognitive artefacts achieve cooperation between actors with different interests from different spheres by building on some overlap, too. But are cognitive artefacts multi-way translations? When Lloyd George and Clemenceau finally agreed on a map in Paris in 1919, they were probably more concerned with satisfying, rather than translating their interests.

Boundary objects, according to Star and Griesemer, are abstract notions or concrete tools that can be used by different actors in their spheres to coordinate and manage their activities across spheres. Boundary objects are able to do so because they are 'simultaneously concrete and abstract, specific and general, conventionalised and customised' and often 'internally heterogeneous'.[34] Star and Griesemer call this the 'boundary nature' of an object.[35] The case study of Star and Griesemer is a natural history museum that grows in size and reputation.

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[31]Susan Leigh Star and James R. Griesemer, 'Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39', *Social Studies of Science* 19, no. 3 (1989): 387–420.

[32]Ibid., p. 414.

[33]Ibid., p. 388.

[34]Ibid., p. 408.

[35]Ibid.

The museum's success is the outcome of cooperation across spheres without consensus. Speaking generally, Star and Griesemer maintain that the key is that 'findings which incorporate radically different meanings' are made coherent. To that end, the different actors take their findings and 'translate, negotiate, debate, triangulate and simplify [them] in order to work together'.[36] The specific case of growing the museum was not achieved by trained biologists alone, but by enlisting a wealthy philanthropist, amateur collectors, trappers and the university administration. Each of them had their own vision for the museum and contributed to it in a way of making it theirs.[37] These disparate contributions became coherent at the museum, because the museum staff disposed of two types of conceptual tools that allowed them to manage cooperation as well as diversity, 'methods standardisation' and 'boundary objects'.[38] The prime example of a boundary object was California itself. For the scientists, California was their 'laboratory in the field', for the philanthropist, trappers and conservationists it was their home, living environment and identity, for the university administration it was its constituency. Thus, every actor had different interests, but California as a boundary object focused these interests geographically.[39]

The actors that came together in Paris in 1919 had to create coherence between different meanings and findings, too. For Wilson, the Polish border was a physically distant, but morally close matter. For Clemenceau, it was a strategic calculation how to strengthen Poland and weaken Germany. For Dmowski, the border was a life-task and the existential Polish question. When they reasoned about the border, they all found different things worth considering. In agreeing on a border, they had to translate, negotiate, create coherence, reconcile their visions etc as well. It is not clear though if managing diversity and cooperation was enough. Fixing the border probably required persuasion, deceit and coercion, too. Hence it is not clear whether cognitive artefacts qualify as boundary objects and where the two concepts might differ.

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[36]Star and Griesemer, 'Boundary Objects', pp. 388-9.
[37]Ibid., pp. 396-404.
[38]Ibid., pp. 392-3.
[39]Ibid., pp. 409-10.

The second theoretical element is 'false numbers' by Martha Lampland (2010).[40] In contrast to numbers as they are usually understood, false numbers are neither stable nor are they meaningful outside a specific environment.[41] Lampland introduces them in explaining social processes that are themselves dynamic, but lead to formalised and rationalised practises.[42] In these processes, argues Lampland, actors use false numbers as temporary or conditional tools in making stable numerical representations possible. The protagonists in our cases found themselves in comparable situations. So should we consider the possibility of false numerical artefacts? Our actors were part of dynamic diplomatic processes in which they were looking to create fixed representations. These representations could be visual as well as numerical. Hence we might identify a visual equivalent to a false number. In contrast to the setting Lampland lays out, however, Wilson, Lloyd George etc did not have the objective of establishing formalised practises. Border and reparation diplomacy are and were non-generic. Nonetheless, false numbers, or more generally false representations, might be useful diplomatic devices. We can imagine that actors use false representations because their temporary or conditional character helps them to manage an open-ended, indeterminate process.

Lampland distinguishes three types of false numbers. False numbers, provisional numbers in a temporary sense and provisional numbers in a conditional sense. False numbers are used in formalisation processes that are being installed over a period of time and require actors to learn the handling of numbers, such as new accounting methods.[43] Provisional numbers in a temporary sense can be found in formalisation processes that are iterative, e.g., economic forecasting in quarterly reports that guide investment decisions.[44] Provisional numbers in a conditional sense occur in formalisation processes that are partially open.[45] One example is scientific modelling which has to be open for epistemic reasons. Another example

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[40]Martha Lampland, 'False numbers as formalizing practices', *Social Studies of Science* 40, no. 3 (2010): 377–404.

[41]Ibid., p. 378.

[42]Ibid.

[43]Ibid., pp. 387-94.

[44]Ibid., pp. 384.

[45]Ibid., pp. 384-6.

is the determination of property value for tax purposes in California in the 1950s. There, provisional numbers were a 'product of recurring political machinations [where] tax assessors were in the habit of privileging supporters and currying favor with shifting voting allegiance'.[46] As these processes evolve, Lampland argues, their formal structures evolve as well and provisional numbers 'decay' or are updated.[47] In Lampland's framework provisional numbers are used by investors to make decisions, scientists use them to creatively solve a problem and politicians use them as incentive.[48]

The diplomatic processes in our cases share many of these characteristics. Above all, negotiations were political and iterative, too. Moreover, the way in which actors argued and reasoned certainly evolved. It is not evident though that these negotiations had a formal structure or that that structure evolved. Maybe it was rather the interests, views and political ideas of our actors that developed. The same applies to the aspect of learning. Wilson, Lloyd George etc learned a lot while negotiating, but maybe they did not learn formalisation and rationalisation. Moreover, it is likely that a whole lot more other than learning was going on between the actors. Persuasion, deceit, coercion etc. What role can false representations play in that regard? Diplomatic actors were forecasting in a broad sense, too. When negotiating, they anticipated how their own interest, the balance of power etc would be affected by the Polish border.

The third and last theoretical element I want to introduce are 'travelling facts', developed from 2004-9 in a multidisciplinary research project headed by Peter Howlett and Mary S. Morgan.[49] The project investigated the nature of evidence and sought to understand under which conditions facts from one sphere successfully move to another, i.e., when they 'travel well'.[50] The actors in our cases had to deal with that question, too. Wilson, Lloyd George etc determined

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[46]Lampland, 'False numbers as formalizing practices', pp. 384-5.

[47]Ibid., p. 384.

[48]Ibid., pp. 384-7.

[49]Peter Howlett and Mary S. Morgan, eds., *How Well Do Facts Travel? : The Dissemination of Reliable Knowledge* (Cambridge: Cambridge University Press, 2011).

[50]Mary S. Morgan, 'Travelling Facts', chap. 1 in *How Well Do Facts Travel? : The Dissemination of Reliable Knowledge*, ed. Peter Howlett and Mary S. Morgan (Cambridge: Cambridge University Press, 2011), p. 12.

Poland's borders after World War I at the Paris Peace Conference. While they shared a spatial and social sphere, their intellectual and diplomatic spheres did not naturally overlap. In that sense making cognitive artefacts travel well was part of negotiating.

The Travelling Facts project identifies two criteria to decide whether facts travel well. First, according to Morgan (2011), a fact has to preserve its 'integrity' in the transition; second, it has to be 'fruitful', i.e., a fact has to be acted upon repeatedly outside its native sphere.[51] These categories, integrity and fruitfulness, might be particularly useful in the fourth case. The case deals with internal US diplomacy about the role of Germany's economy in European recovery and has a particular constellation of actors. On the one hand, there were actors like Lucius D. Clay and Bernard Bernstein. As officials in the American military administration in Germany, they shared a spatial and social sphere. At the same time, they had opposing views of Germany's economy and therefore belonged to different political and intellectual spheres. On the other hand, there was the Washington administration. It was geographically and socially removed from Clay and Bernstein and politically divided. Through their cognitive artefacts Clay and Bernstein tried to influence Washington's stance on the occupation. So how did Clay and Bernstein give their cognitive artefacts integrity and fruitfulness for their travels from Germany to Washington? Let us revisit these questions in more detail as we go through the cases.

Before starting into the historical case work, I want to discuss briefly a theoretical element that I will not use: performativity. Despite performativity not doing analytical work in the cases, I think it would be a mistake not to mention it at all. The possibility of cognitive artefacts being performative has accompanied a great deal of the thinking that has gone into this thesis, if not the writing. There is no doubt that statistics, maps or accounting procedures can be performative.[52] The

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[51]Morgan, 'Travelling Facts', pp. 13-8, 18-25.

[52]For example: Donald MacKenzie, *An Engine, Not a Camera: How Financial Models Shape Markets*, Inside Technology (Cambridge, MA: The MIT Press, 2006); Rob Sullivan, *Geography Speaks: Performative Aspects of Geography* (Farnham: Ashgate, 2011); Mahmoud Ezzamel, 'Order and accounting as a performative ritual: Evidence from ancient Egypt', *Accounting, Organizations and Society* 34, nos. 3-4 (April 2009): 348–380.

theoretical elements introduced above, however, give us much better traction than performativity to understand how political actors arrive, e.g., at a map that shows new state borders. It will become evident in the cases that maps and statistics hardly become real just by being drawn or calculated. A great deal of negotiating, convincing, threatening and deceiving are necessary to make a cognitive artefact real for just a handful of politicians and high-level diplomats. The process of producing, circulating and modifying cognitive artefacts tells us something more general than the performativity claim: it tells us what actors need to do to other actors and to cognitive artefacts before the latter can be performative.

2 Poland's borders after World War I

Contents

2.1 Introduction

The process that gave Poland her post-World War I borders lasted from early 1917 to 18 March 1921. It began when Russia, Germany and Austria-Hungary started to lose the war. These three powers had divided Poland amongst them at the end of the 18th century and occupied her since then. The process ended with the Treaty of Riga, after the Polish Army pushed Bolshevik forces eastwards into

modern day Ukraine. While Poland's eastern border was determined by military means, her western and southern borders came about through diplomacy, plebiscites and smaller armed conflicts.

The most important diplomatic milestone was reached at the Paris Peace Conference in 1919 by US President Woodrow Wilson, Britain's Prime Minister Lloyd George, French President Georges Clemenceau and Roman Dmowski, Head of the Polish Delegation. The American, British and French heads of state were often collectively referred to as the Big Three. The Big Three and Dmowski were supported by other diplomats and technical experts. This chapter examines seven cognitive artefacts that circulated between them, up to the signing of the Versailles Treaty, table 2.1, p. 32: maps, statistics and data-maps. On 28 June 1919 the treaty fixed the border between Poland and Germany, placed Danzig under international control and set out plebiscites for parts of East Prussia and Silesia. By producing, circulating, modifying and rejecting cognitive artefacts the actors figured out their joint scope of agency for fixing the Polish-German border. They successfully aligned their diverging interests, determined a large portion of the frontier and agreed on the procedure of plebiscites for the remaining segments.

Table 2.1: Cognitive artefacts of Poland's post-1918 borders

No.	Date	Actor[1]	Description
1	Oct. 1918	PL	Map of historical Poland
2	Oct. 1918	US	Map of ethnic Poland
3	Feb. 1919	PL	Statistics of Polish population and economy
4	Feb. 1919	PL	Ethnographic maps of Prussian Poland
5	Mar. 1919	CPA	Statistics on ethnic separation by borders
6	Mar. 1919	CPA	Border proposed between Poland and East Prussia
7	Jun. 1919	PPC	Border decided between Poland and East Prussia

[1] Denominates the political actor, fraction or entity from which the artefacts originated: PL=Poland; US=United States; CPA=Interallied Commission on Polish Affairs of the Paris Peace Conference; PPC=Paris Peace Conference.

No dominant policy paradigm emerged during the diplomatic process. Wilson and the other actors could not choose between several options for the border. The

notion of a policy paradigm goes back to Peter A. Hall (1993).[1] Hall suggests that political actors usually operate within policy paradigms. They determine the political scope of agency by offering a number of policy options from which actors can choose. That was not the case for Wilson, Lloyd George, Clemenceau and Dmowski. Nor did they develop a common rationality that allowed them to calculate the border. They arrived at it through the iterative creation, circulation and modification of maps, statistics and data maps. With these artefacts the actors fleshed out their common scope of agency.

Embedded in those artefacts, however, were ideas and rationalist elements. A relevant idea was to draw the political border in accordance with ethnicity. An important rationalist element was to calculate minimum borders, based on the number of people that were necessary for Poland to build a strong army. Over the course of several iterations some of these ideational and rational elements were rejected. Those that remained were amalgamated and ultimately submerged in a singular political decision.

Poland's rebirth brought about one of the many border changes after World War I. A comparison of 1912 and 1923 shows the numerous transformations, see fig. 2.1, p. 34. Most notable is an increasing fragmentation. New nation states emerged, old boundaries shifted and empires were stunted. Poland, Czechoslovakia, Yugoslavia and the Baltic States surfaced, drawing on land that was formerly under the rule of the Habsburg monarchy, Russia or Germany. Romania roughly doubled in size, Serbia and Montenegro were subsumed into Yugoslavia and Germany's borders with Denmark and France retracted.

2.2 Literature review

2.2.1 Historical literature

The Paris Peace Conference, dubbed a temporary 'world government' by Margaret MacMillan (2001), was a point of condensation for the competing

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[1]Hall, 'Policy Paradigms, Social Learning and the State'.
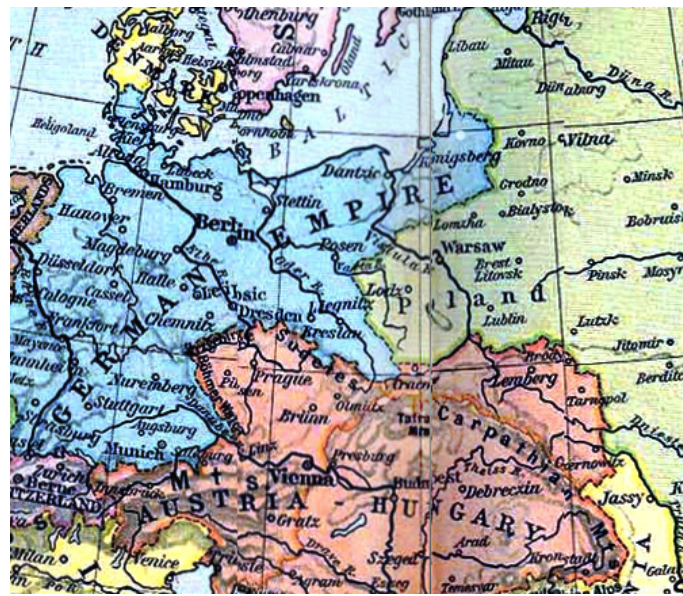
(a) 1912

(b) 1923

Figure 2.1: Political borders in Central Europe in 1912 and 1923. Austria-Hungary was broken up, Germany and Russia lost some of their territory. Poland re-emerged as an independent state. One of the notoriously contentious issues after World War I was the Polish corridor to the Baltic Sea, Danzig and German East Prussia.
Sources: Library of Congress (hereafter LoC), Rand McNally and Company, *G5700 1912 .R3: The Rand-McNally new library atlas map of Europe*, Chicago, 1912, http://hdl.loc.gov/loc.gmd/g5700.ct002032; George Washington Bacon and Weber Costello Company, *G5700 192- .B3: Bacon's standard map of Europe*, 1923, http://hdl.loc.gov/loc.gmd/g5700.ct001973.

desires and countless ideas to restructure Europe.[2] Interests diverged, but the conference had to end with an agreement, creating a great deal of the situational pressure under which actors identified their common scope of agency.

The making of Poland's interwar borders and international postwar diplomacy more generally have received a lot of attention, then and today. While the Peace Conference was still in session, John Maynard Keynes was the first of many to argue that politicians were taking poor decisions with very negative consequences for Europe's economy and its entire civilisation. Europe's 'structure and civilisation are essentially one', he argued, and the political decisions taken at the conference may cause the continent to collapse.[3] Keynes' prediction of another war and the broad brush strokes of the 20th century seem to corroborate his view. World War II began when Germany attacked Poland and undid the border fixed in Paris.

Joshua Hagen (2009) examines maps of the Polish corridor that the Polish and German sides used during the interwar years, to gather public support for their positions.[4] He finds that both states used maps to portray their neighbours' borders as a threat to themselves, as injustice to their ethnic groups and as a disruption to harmonious economic flows. Charles Feinstein, Peter Temin and Gianni Toniolo (1997) broadly follow Keynes and the German argumentation of the interwar years. They maintain that the fragmentation and reorganisation of polities after 1918 'was a cause of widespread resource misallocation, resulting in lower output and higher prices'.[5]

Nikolaus Wolf, Max-Stephan Schulze and Hans-Christian Heinemeyer (2011) set a counterpoint to this still dominant narrative. They maintain that a 'pattern of economic fragmentation' existed since the late 19th century that was merely

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[2]Margaret MacMillan, *Peacemakers : The Paris Conference of 1919 and Its Attempt to End War* (London: John Murray, 2001), p. 65.

[3]John Maynard Keynes, *The Economic Consequences of the Peace*, ed. Elizabeth Johnson and Donald Moggridge, vol. 2, The Collected Writings of John Maynard Keynes (Macmillan, 1978), p. 2.

[4]Joshua Hagen, 'Mapping the Polish Corridor: Ethnicity, Economics and Geopolitics', *Imago Mundi: The International Journal for the History of Cartography* 62, no. 1 (2009): 63–82.

[5]Charles H. Feinstein, Peter Temin and Gianni Toniolo, *The European Economy between the Wars* (Oxford: Oxford University Press, 1997), pp. 31-2.

followed by the new borders.[6] They 'imposed only modest additional trade costs', because markets were already more deeply integrated along lines of ethnolinguistic and geographic division.[7] This leads Wolf et al to conclude that 'intentionally or not', border diplomacy somehow accounted for the relative integration of markets.[8]

The principles or, more pragmatically, the process by which diplomacy established the new borders is still debated. There is substantive evidence though that a mix of considerations came together in an eclectic manner. The view of Helga Schultz (2002), that 'an ethnic principle was established' for Poland, seems wrong.[9] One set of accounts puts emphasis on the notion of national self-determination. Alan Sharp (2008) remarks about the Eastern European settlement that the 'victors had no clear and agreed basis on which to proceed' and entered into mutually exclusive commitments.[10] On the one hand, they promised to preserve the unity of Austria-Hungary, on the other they pledged territory to Poland. Sharp remarks that the various parties disagreed on the territories and populations that should be assigned to Poland and concludes that the 'task of reconciling the irreconcilable was beyond the conference'.[11]

Zara Steiner (2005) maintains that 'no one [...] understood the full complexity' of peacemaking in the east.[12] Local complications, geography, unreliable statistics, inaccurate maps, the ethnic patchwork, strategic and economic factors were too

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[6]Nikolaus Wolf, Max-Stephan Schulze and Hans-Christian Heinemeyer, 'On the Economic Consequences of the Peace: Trade and Borders After Versailles', *The Journal of Economic History* 71, no. 4 (2011): p. 915.

[7]Ibid., pp. 940, 944.

[8]ibid., p. 944. Another recent study of still persistent effects on voting of Poland's 18th century partition between Russia, Austria-Hungary and Germany is: Irena Grosfeld and Ekaterina Zhuravskaya, 'Persistent Effects of Empires: Evidence from the Partitions of Poland' (Paris, 2013).

[9]Helga Schultz, 'Self-Determination and Economic Interest: Border Drawing After the World Wars', in *National Borders and Economic Disintegration in Modern East Central Europe*, ed. Uwe Müller and Helga Schultz, vol. 8, Frankfurter Studien zur Grenzregion (Berlin: Verlag A. Spitz, 2002), p. 111.

[10]Alan Sharp, *The Versailles Settlement : Peacemaking After the First World War, 1919-1923*, 2nd ed., The Making of the 20th Century (London: Palgrave, 2008), pp. 139-40.

[11]Ibid., pp. 161-8.

[12]Zara Steiner, *The Lights that Failed: European International History, 1919-1933*, Oxford History of Modern Europe (Oxford: Oxford University Press, 2005), p. 82.

convoluted for anyone to sort out, even without the consideration of national interests and the incessant lobbying of the 'new or expanding states'.[13] Politicians in Paris recognised a national principle, but they applied it irregularly, ignored it, sacrificed it for strategic interests and 'modified [it in] practice when new boundaries were drawn'.[14] Norman Graebner and Edward Bennett (2011) argue as well that boundary decisions in Eastern Europe were 'devoid of principle' and see the idea of self-determination as a 'device for punishing the losers'.[15]

Margaret MacMillan (2001) calls the 'rebirth of Poland' one of the Peace Conference's 'great stories' that caused 'endless difficulties'.[16] The Poles disagreed amongst each other whether they wanted a large country with many non-Poles, a small one with few non-Poles or a compromise between the two; only the 'need for access to the Baltic' was beyond doubt.[17] Allied experts that worked on the question agreed that the boundaries 'should be drawn on ethnic lines as much as possible', but maintained that there were also other relevant considerations.[18]

Other accounts pay greater attention to the strategic interests of actors. Kay Lundgreen-Nielsen (1979, 1992) surveys the policies of Poland and the major powers.[19] Sharp (2001) analyses British policy.[20] Piotr Wandycz (1992) evaluates

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[13] Steiner, *The Lights that Failed*, pp. 82-3.

[14] Ibid., p. 84.

[15] Norman A. Graebner and Edward M. Bennett, *The Versailles Treaty and its Legacy: The Failure of the Wilsonian Vision* (Cambridge: Cambridge University Press, 2011), pp. 50-2.

[16] MacMillan, *Peacemakers*, p. 217.

[17] Ibid., pp. 217-21.

[18] Ibid., p. 226.

[19] Kay Lundgreen-Nielsen, *The Polish Problem at the Paris Peace Conference: A Study of the Policies of the Great Powers and the Poles. 1918-1919.* (Odense: Odense University Press, 1979); Kay Lundgreen-Nielsen, 'Aspects of American Policy towards Poland at the Paris Peace Conference and the Role of Isaiah Bowman', in *The Reconstruction of Poland, 1914-23*, ed. Paul Latawski (Macmillan and School of Slavonic and East European Studies, University of London, 1992), 95–116.

[20] Alan Sharp, 'Holding up the Flag of Britain ... with Sustained Vigour and Brilliance or 'Sowing the seeds of European Disaster'? Lloyd George and Balfour at the Paris Peace Conference', chap. 3 in *The Paris Peace Conference, 1919 : Peace without Victory?*, ed. John Fisher and Michael Dockrill, Studies in Military and Strategic History (London: Palgrave Macmillan, 2001), 35–50.

Poland's diplomatic strategy.[21] Anna Cienciala (1992) reconstructs the battle between American, British, French and Polish interests in the politicking over Danzig and Poland's access to the Baltic Sea.[22]

Wolf et al aptly sum up that making new boundaries was a 'messy process' in which many factors had to be taken into account.[23] Ideas like self-determination mattered, but so did ethnicity, the punishment of Germany, strategic and economic interests of the Allies and of Poland etc. An analysis of the cognitive artefacts that were used in Paris confirms that the process was messy. There was no principle, no metric, no design of Poland's borders. There was, however, a process that yielded a combination of factors. This combination was remarkably considered, but not conclusively defined. The Polish-German border was made from a colourful combination of considerations that satisfied Polish, American, British and French concerns.

2.2.2 Literature on artefacts

Like most other aspects of the Peace Conference, the involvement of technical experts and their production of artefacts is discussed, too. Accounts mainly focus on American experts and materials. There are only indications, however, of the role artefacts have played regarding political agency.

In Harold Nicolson's (1933) classic account of the Peace Conference, maps feature as powerful and persuasive objects, but also as a source of confusion. Handling and creating maps was part of Nicolson's routine. He was a member of the British Delegation and of the conference's Territorial Committee. He anecdotally recounts the progress that he and his American colleagues made by pouring over maps, the endless nuisance by politicians trying to gain an advantage by using incorrect maps and the difficulties of leaders like Lloyd George to read maps

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[21]Piotr Wandycz, 'Dmowski's Policy at the Paris Peace Conference: Success or Failure?', in *The Reconstruction of Poland, 1914-23*, ed. Paul Latawski (London: Macmillan, 1992), 117–32.

[22]Anna M. Cienciala, 'The Battle of Danzig and the Polish Corridor at the Paris Peace Conference of 1919', in *The Reconstruction of Poland, 1914-23*, ed. Paul Latawski (Macmillan and School of Slavonic and East European Studies, University of London, 1992), 71–94.

[23]Wolf, Schulze and Heinemeyer, 'Economic Consequences of the Peace', p. 922.

correctly.[24] Frank Marston (1944) discusses organisational and technical aspects of the conference and remarks that a range of map-making activities prepared the ground for political negotiations.[25] Lawrence Gelfand (1963) dedicates a study to the American team of technical experts, the so-called Inquiry, in which geographers and maps played a central part. The group produced approximately 2,000 reports and 1,200 maps.[26] Neil Smith (2003) follows the political career of geographer Isaiah Bowman. Bowman was a leading figure in the American Inquiry and tried to 'corral the factual and graphic support', according to Smith, that made Wilson's positions persuasive.[27] Bowman spoke of the 'map language' as a 'new instrument' that was discovered in Paris; like Nicolson, Bowman thought that 'a perverted map was a life-belt to many a foundering argument'.[28]

Jeremy Crampton (2006) discusses the mapping activities of the Inquiry by example of the Yugoslavian frontiers. The Inquiry produced a spatial account of race in its then popular statistical and governmental form. Hence it created 'statistical cartography' or 'statistical mapping'.[29] Crampton draws on the critical cartography literature of the 1990s and 2000s to argue that the Inquiry applied Foucault's notion of governmentality to cartography.[30] Crampton suggests that the Inquiry contributed to establishing governmentality as an 'alternative political rule to sovereignty', because maps are 'active political instruments' that are 'produced by and productive of truth'.[31] Diplomatic history tells us that visualisation of government knowledge, e.g., the ethnic composition of the population, was an important part of the process. It tells us as well though, that

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[24]Harold Nicolson, *Peacemaking 1919* (London: Constable, 1933), pp. 211, 222-3, 272-3.

[25]Frank Swain Marston, *The Paris Conference of 1919 : Organization and Procedure* (London: Oxford University Press, 1944).

[26]Lawrence E. Gelfand, *The Inquiry: American Preparations for Peace, 1917-1919* (Yale University Press, 1963), pp. x, 341-2.

[27]Neil Smith, *American Empire : Roosevelt's Geographer and the Prelude to Globalization*, California Studies in Critical Human Geography (Berkeley, CA: University of California Press, 2003), p. 147.

[28]Cited in: ibid.

[29]Jeremy W. Crampton, 'The Cartographic Calculation of Space : Race Mapping and the Balkans at the Paris Peace Conference of 1919', *Social & Cultural Geography* 7, no. 5 (2006): p. 732.

[30]Ibid., pp. 732-5.

[31]Ibid.

visualisation itself was a problematic issue, which produced controversies that were not fully resolved. Wesley Reisser (2012) discusses a collection of American maps that acquired some mystic fame during the conference, the so-called Black Book. It was a US policy document that summarised research and presented a whole range of border recommendations. Unsurprisingly, Reisser finds that borders in the Black Book were 'scuttled' and did not match actual outcomes.[32]

The literature suggests that maps were quite literally at the centre of diplomacy. It also tells us that there was dedicated American and British personnel that produced numerous artefacts that then circulated. Bowman's term of the 'map language' echoes the ability of boundary objects to create coherence by speaking to actors from different social spheres. After all, the actors in Paris did not just pursue different interests, they also spoke different languages. One of the most vivid accounts of high-level diplomacy in Paris is that of Paul Mantoux (1955).[33] As Clemenceau's interpreter he was right in the middle of many arguments. French was the official language, but a great deal of the technical expertise was of American origin and therefore in English. In the heat of the moment arguments were exchanged in English or another language that the discussants shared. Similar to boundary objects, cognitive artefacts certainly played their part in overcoming the language barriers between actors.

Diplomatic history, as well as Bowman and Nicolson, tells us that the cognitive artefacts of the conference were not quite like boundary objects. Arguments between actors, e.g., about the question where and how to apply the principle of self-determination, meant disagreement on the location of the border. Hence producing and circulating cognitive artefacts was not sufficient, they also had to be argued over, modified and rejected. Furthermore, Bowman's 'map language' was in danger of being corrupted. There were those who were not familiar with it or who played foul with 'perverted maps'. If cognitive artefacts created

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[32]Wesley J. Reisser, *The Black Book : Woodrow Wilson's Secret Plan for Peace* (Lanham: Lexington Books, 2012), pp. 27, 98.
[33]Paul Mantoux, *Les délibérations du Conseil des quatre (24 Mars - 28 Juin 1919) : notes de l'officier interprête Paul Mantoux* (Centre national de la recherche scientifique, 1955).

coherence, it is likely that this happened in an arduous, competitive and limited manner that is absent in the original notion of boundary objects.

2.3 Wartime prelude: Poland's re-emergence

2.3.1 Actors and interests

Four main actors who determined the Polish-German border. First, there was Roman Dmowski, Polish exile politician in Paris, Founder and President of the Polish National Committee (KNP) and Head of the Polish Delegation in Paris. Second, Lloyd George, Britain's prime minister. Third, President Woodrow Wilson of the US. Fourth, France's president George Clemenceau. They had different interests and initially envisioned the border in different places. Between early 1917 and mid-1919, however, they managed to align their interest to the extent that they could jointly draw the frontier.

Poland, rather the Polish Lithuanian Commonwealth Kingdom, had ceased to exist as an independent state when she was partitioned by Prussia, Austria-Hungary and the Russian Empire in 1772, 1793 and 1795. The Great War had seen one of the partitioning powers, Russia, collapse and the two others being defeated. The increasing power vacuum had gradually opened a space that allowed the Poles to work towards greater self-determination and finally towards their own state.[34]

By the time the window of opportunity opened in early 1917, Roman Dmowski had strategised about and lobbied for a Polish state for many years. To Dmowski, the greatest threat had always been Prussia or Germany and her ambitions in the east. In his 1909 publication *La question polonaise*, Dmowski had put this in

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[34]Anita J. Prażmowska, *Poland: A Modern History* (I.B. Tauris, 2010), pp. 61-86. The bigger picture of Poland's resurrection is also given in: Paul Latawski, ed., *The Reconstruction of Poland, 1914-23*, Studies in Russia and East Europe (Macmillan and School of Slavonic and East European Studies, University of London, 1992).

writing accessible to a broad audience.[35] Before 1914 he counted on a strong and increasingly liberal Russia to act as the great anti-German force, but events after 1914 invalidated this calculation. During the war German and Austrian forces occupied Russian Polish territory and Russia collapsed into a civil war. Germany's Peace of Brest-Litovsk with the Ukraine on 9 February 1918 and Russia on 3 March cemented German, Baltic, Russian and Ukrainian national interests and territory at the expense of the Poles. Already by early 1917 Dmowski reasoned that, in the absence of other forces, Poland had to be remade as a country that was strong enough to withstand Germany by herself. As such, Poland would also make up the core of the forces that were to contain Germany in the east.[36]

Poland could play that role, thought Dmowski, under three conditions that he stated in March 1917 to Arthur Balfour, Britain's foreign secretary:

1. The state must be sufficiently large and strong.
2. The state must be economically independent of Germany, especially with regard to access to the sea, and possession of the Silesian coal mines.
3. It should be a sovereign state with its own foreign policy, so that it could work for the organisation of the Central European nationals, and that these could free themselves from German influence.[37]

In Dmowski's view, the Polish state had to have a minimal absolute size, access to trade routes and control over resources. These were prerequisites for economic independence and self-determination.

Wilson partially led, partially dragged the US into the war in April 1917. He did so with a morally flamboyant rhetoric that championed nothing short of a new order. The underlying driver for this moral-political mission were American economic interests.[38] Nonetheless, the war was fought to end all wars. And the

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[35]Roman Dmowski and Wacław Jan Gasztowtt, *La question polonaise* (Paris: Armand Colin, 1909); originally published in Polish in 1908 as *Niemcy, Rosja a sprawa polska (Germany, Russia and the Polish Cause)*.
[36]Lundgreen-Nielsen, *The Polish Problem in Paris*, pp. 32-5.
[37]Cited in: ibid., p. 33.
[38]Smith, *American Empire*, pp. 113-5.

coming peace would no longer be based on secretive politics, economic nationalism and imperialism. It would be morally principled and enshrine political and economic openness for which the planned League of Nations, founded in 1920, would provide the necessary international co-ordination. Although the practical points of Wilson's new order remained notoriously vague all the way through 1919, its general outline almost naturally meant advocating the recreation of a Polish state. In the 13th of his famous Fourteen Points, Wilson proclaimed publicly on 8 January 1918:

> An independent Polish state should be erected which should include the territories inhabited by indisputably Polish populations, which should be assured a free and secure access to the sea, and whose political and economic independence and territorial integrity should be guaranteed by international covenant.[39]

Furthermore, recreated Poland would justly draw on territory of those who she fell prey to in the first place, her imperialist neighbours Germany, Austria-Hungary and Russia. Wilson's ideas found their counterpart in a strong Polish nationalist movement in the US. The public could identify with the cause, not least because the Polish-American community was about four million strong. Tadeusz Kościuszko was a hero of Polish descent in the American Independence War. Ignacy Jan Paderewski, a Polish pianist, was popular in the US and a figurehead of the nationalist movement.[40]

The British attitude was supportive, but much more reserved than that of the US. British aspirations for postwar Europe were less comprehensive and morally charged, but economic and politic pragmatism created some common ground. The British merchant fleet would benefit from open trade under the new order. The public strongly desired an arrangement that promised to prevent the horrors of war, something the League of Nations aspired to. The political elite did not believe though, that the League and its ideals could actually deliver political stability. Hence, recreating the Polish state was not a matter of principle. It was

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[39]Woodrow Wilson and Yale Law School, *President Woodrow Wilson's Fourteen Points*, 1918, accessed 4th October 2015, http://avalon.law.yale.edu/20th_century/wilson14.asp.
[40]MacMillan, *Peacemakers*, pp. 221-3.

a necessity, due to the collapse or defeat of the three partitioning powers, the strength of the Polish national movement and some sympathy for the general auspices under which the US favoured the Polish state. In his speech on war aims on 5 January 1918 Lloyd George spoke of an 'independent Poland comprising all those genuinely Polish elements who desire to form part of it'.[41] New borders should be drawn without upsetting the European triangulation of power between Germany, France and Britain and without creating more *terre irredente* like Alsace-Lorraine, which were obvious reasons for past and future wars in the British perspective.[42] Perceptions of Polish figureheads cemented the dispassionate approach. Józef Piłsudski, Head of the Polish Government in Warsaw, had fought the war along with Austria-Hungary and against the British. He was viewed with suspicion because of his socialist leanings. Roman Dmowski and his organisation were too far on the political right. Dmowski had left an impression of general crudeness and outsized anti-Semitism, when visiting Britain during the war.[43] Reluctance further increased by January 1919. When the conference in Paris began, Britain already had Germany's fleet and her colonies and thereby most of what she wanted.

France's Georges Clemenceau had, like the US, a far reaching vision of overhauling Europe's order, but it was driven by a very different motive. It should break Germany's aspirations to dominate. The war of 1870/71 had been a national humiliation that was still felt and for which France sought revenge. The Great War had brought her so close to defeat that the existential threat was still fresh in early 1919. Moreover, France had suffered from much greater human and material losses than Britain or the US and she sought to get compensated.[44] The German neighbour, in turn, had just lost the war but was still more populous and economically stronger. This seemed to make the next episode of German aggression only a question of time. Hence, French support for a League of Nations hinged on the question whether it would be capable of reigning in

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[41]Lundgreen-Nielsen, *The Polish Problem in Paris*, pp. 35-9.

[42]MacMillan, *Peacemakers*, pp. 221-3.

[43]Ibid.

[44]Bruno Cabanes, '1919: Aftermath', chap. 7 in *The Cambridge History of the First World War: Global War*, ed. Jay Winter, vol. 1 (Cambridge: Cambridge University Press, 2014), p. 176.

Germany, i.e., whether the League had an army.[45] In the same vein, the rebirth of a Polish state was an opportunity to clip Germany's territory and her economic capacities. Furthermore, since Russia was in decay, it was hoped that Poland would take on the role of containing Germany in the east. Accordingly, Foreign Secretary Stéphen Pichon had publicly demanded 'a big and strong, very strong' Poland in fall 1917, months before Britain or the United States gave public support to the Polish state.[46] France's strategic interest in the Polish cause was complemented by a great emotional attachment. Polish nationals like Napoleon's lover Maria Walewska, Frédéric Chopin or the Polish volunteers fighting Prussia in 1870 featured positively in the French collective memory.[47]

The four main actors had very different reasons to support a Polish state. All sides sought their own advantage, resulting in different approaches and geographic outlines. 'Independent Poland' had many meanings that were initially incompatible. Dmowski thought of the natural and human resources a strong Poland needed. To Wilson Poland had to be as ethnically Polish as possible so that it could be the showpiece of a morally clothed American liberalism. Lloyd George wanted a border that minimised disruptions to the prewar order. France tried to find that shape of Poland that would weaken Germany the most. In early 1917 it was not clear whether and where these different visions overlapped. Nor was it clear that any segment of the border could be settled diplomatically. By mid-1919, however, the actors had figured out the location of the Polish-German border through their artefacts. And they had realised, too, that Poland's eastern border was beyond their diplomacy's reach.

2.3.2 The Polish vision: A state from Polish territory

By early 1918 Wilson, Lloyd George and Clemenceau had given their public support to a Polish state. The US and Britain had broadly couched the issue in the language of ethnic self-determination. This language was initially not

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[45]MacMillan, *Peacemakers*, pp. 27-31.
[46]Cited in: ibid., p. 212.
[47]Ibid., pp. 95-6, 221-3.

Dmowski's, but he adopted it to ensure American and British support. From February 1918 onwards border discussions at the KNP took tactical deliberations of Allied positions into account and Dmowski began to employ Wilson and Lloyd George's terminology. When Wilson asked Dmowski to produce an in-depth treatment of the 'national composition' and history of Polish territory, separately for each province, Dmowski responded in October 1918 with a memo and a map, the first cognitive artefact of this chapter.[48]

Dmowski's map showed the borders of Russia, Prussia and the Austro-Hungarian empire as solid red lines, see fig. 2.2, p. 47. Poland's borders before the partition were a solid green line. Territories that had been Polish at some point before 1772 were outlined with a green dashed line and marked with the year in which Poland lost them: a strip of Pomerania on the Baltic Sea in 1296; a part of Moravia and the Carpathian Mountains north of Budapest in 1026; territories on the Black Sea, north of Odessa, in 1672, see fig. 2.3, p. 48. In Dmowski's map, historical Poland was an enormous country that stretched from the Baltic Sea almost to the Black Sea, that started close to Berlin and Vienna in the north-west and south-west and ended just before Moscow in the east.

Dmowski's memo, titled *The Territory of Poland*, introduced the Polish question as 'above all a problem of territory'.[49] It started out with the geopolitical perspective that the Poles found themselves between aggressive Germany in the west and Russia, the collapsing behemoth, in the east. Since the Poles were without protection 'Poland must herself become a solid State, completely independent, capable of self-protection and of development along lines of her own'. She also had to 'become the great constructive democracy of Eastern Europe, a barrier against German pressure eastward'.[50] Dmowski told Poland's history as a battle against German armies, culture and statistics. Prussia's military conquest, argued Dmowski, was followed by political immigration and

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[48]Lundgreen-Nielsen, *The Polish Problem in Paris*, pp. 35-9.

[49]The Polish Delegation reissued the memo in early 1919 at the peace conference as *Poland's Territorial Problems*. Archives diplomatiques de France (hereafter ADDF), Roman Dmowski and Polish National Commitee, *294QO/074: Poland's Territorial Problems*, Paris, October 1918.

[50]ADDF, ibid., p. 3.

Figure 2.2: CA 1, Roman Dmowski's map of Poland from October 1918. It showed the prewar frontiers of Russia, Prussia and Austria-Hungary (red) as well as historically Polish territory (green). Dmowski suggested the 1772 borders as starting point for negotiations.

Source: Archives diplomatiques de France (hereafter ADDF), Roman Dmowski and Polish National Commitee, *294QO/073 : Frontières de Russie, de Prusse, d'Autriche & de Pologne*, Paris, October 1918.

(a) Detail
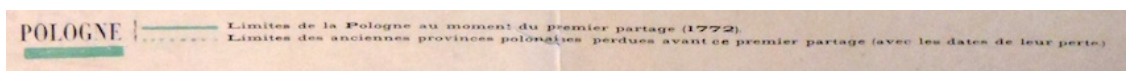
(b) Legend

Figure 2.3: Details of fig. 2.2, p. 47. Dmowski interpreted Wilsons' support for a Poland from 'territories inhabited by indisputably Polish populations' in a historical way. Fig. 2.3a shows territory that Poland lost in 1256 and in 1252. The solid green line was the Polish border before the partitions of 1772. The thick red line was the pre-1914 border between Germany and Russia. The amended legend shows that Dmowski added Polish history to a pre-1914 political map, see fig.2.3b.

Germanisation by force. The success of these measures, however, was 'grossly exaggerated' by official statistics of the German state, which were a 'great weapon [of propaganda]'. Germany was the only country, according to Dmowski, that had fully recognised the importance of the Polish question. After the partitions in the 18th century Germany had set to work 'official statisticians, historians, economists and publicists [to] degrade Poland in the eyes of the world and represent her as a small nationality of little value to civilised mankind'.[51]

Dmowski characterised the statistics of the German state as a 'great weapon' against the Polish people. His words highlight that cognitive artefacts are not as benign as boundary objects. Star and Griesemer conceive them as enabling actors from different social spheres and with different objectives to cooperate without encroaching upon each other.[52] In contrast, the cognitive artefacts of the German state were a tool of oppression for Dmowski and a means of ruling for the German government. Boundary objects are internally heterogenous. They create coherence by allowing different actors to interpret them differently. The map of California enables scientists, administrators, environmentalists etc to collaborate harmoniously by allowing them to see different things in the map.[53] Cognitive artefacts, in comparison, are infused with power. One of the intentions with which actors create cognitive artefacts, it appears, is to establish their own interpretation as dominant. What does that mean for the internal heterogeneity of cognitive artefacts in contrast to boundary objects? Furthermore, what is the role of cognitive artefacts in enforcing an interpretation? Are they transmitters for the agency of an actor, do they alter his agency or do they even have agency themselves? For now it is evident that power relations play an important role for cognitive artefacts.

The main body of Dmowski's memo gave accounts of all Polish provinces, detailing history and the population's ethnicity. Dmowski's discussion followed a typical structure. At first, he gave an overview of the different political powers that had occupied the province in the past. Then he evaluated the cultural,

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[51]ADDF, Dmowski and Polish National Commitee, *Poland's Territorial Problems*, pp. 3-4.
[52]Star and Griesemer, 'Boundary Objects'.
[53]Ibid., pp. 409-10.

linguistic and national developments that resulted from it. This entailed historical considerations, in the case of East Prussia going back to the 13th century, and qualitative judgements, e.g., that Posnania was 'the most cultured part of the [Polish] national body', on par with the 'corresponding classes in the most advanced Western countries'.[54] Dmowski referenced official statistics on Polish speakers, which he put into doubt at once. He argued that they were irrelevant or that they understated the Polish element. The 'official figures [...] for almost purely German Dantzig', according to Dmowski, failed to capture that 'nearly one-half of the population' was only 'superficially Germanised'.[55] And in the territories east of the Kingdom of Poland a 'powerful minority' of Poles was 'the only intellectual and economic force capable of ruling the country'.[56]

In his October 1918 memo Dmowski also modified the three necessary conditions for the recreation of Poland, which he had laid out first in March 1917, see table 2.2, p. 51. The revised first condition explicitly made the claim to a strong state as measured by territory and population. The third condition of October 1918 seems to have evolved from the second of March 1917. Both dealt with the notion of independence, but while the latter referred to Germany the former spoke of neighbours in general. Similarly, Dmowski subsumed the claims to Silesian coal and access to the sea under the broad demand for frontiers that correspond to 'geographical requirements'. The third condition of March 1917, Polish sovereignty and an 'own foreign policy', was redundant to the general idea of independence in October 1918. Dmowski dropped Poland's role as a 'centre of organisation' for the liberation of Central Europe. Lastly, Dmowski's second condition of October 1918 argued for 'internal cohesion', ensured by a sufficiently homogenous population.

Dmowski's memo of October 1918 and his revised conditions show a great deal of alignment with the language and reasoning of Wilson and Lloyd George. At the same time Dmowski's map presented a vision of Poland that was more sizeable than theirs. Dmowski submitted memo and map to Wilson, Lloyd George and

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[54]ADDF, Dmowski and Polish National Commitee, *Poland's Territorial Problems*, pp. 8-9.
[55]ADDF, ibid., pp. 10-1.
[56]ADDF, ibid., pp. 26-7.

Table 2.2: Roman Dmowski's conditions for recreating Poland, 1917 & 18

	March 1917[1]	October 1918[2]
1.	Sufficiently large and strong state.	Extensive territory and a large population.
2.	Economically independent of Germany, especially with regard to access to the sea, and possession of the Silesian coal mines.	Sufficiently homogenous population to insure internal cohesion.
3.	A sovereign state, own foreign policy, able to organise Central Europe to free itself from German influence.	Frontiers that correspond to geographical requirements, ensuring independence from neighbours.

[1] Dmowski in a note to Balfour, March 1917; cited in: Kay Lundgreen-Nielsen, *The Polish Problem at the Paris Peace Conference: A Study of the Policies of the Great Powers and the Poles. 1918-1919.* (Odense: Odense University Press, 1979), p. 33.

[2] ADDF, Roman Dmowski and Polish National Commitee, *294QO/074: Poland's Territorial Problems*, Paris, October 1918, p. 3.

Clemenceau on 8 October 1918. When he presented the map at a meeting in autumn 1918, the American impression was that Dmowski 'claimed a large part of the earth'.[57] Dmowski complied with Wilson's initial request and dealt with official population statistics, although the data did not yield the kind of Poland he imagined. Dmowski tried to overcome this dissonance by deconstructing official numbers and substituting them with Polish history and culture. 'Forced Germanisation' referred to politically motivated immigration and the pressure for people to self-identify as German in the census. This increased the number of Germans at the expense of Poles. The 'superficial Germanisation of Danzig' was Dmowski's appeal to a deeper identity, not captured by the German census, which would resurface once the city was Polish again. He set the profundity of medieval Polish history against the currently German population in East Prussia. Dmowski argued that in the easter territories the superior social and economic development of Poles outweighed their low numbers. Dmowski argued for his vision by translating it into the terms used by the Big Three.

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[57]MacMillan, *Peacemakers*, p. 223.

Dmowski's artefact was situated in a power constellation that included his direct
negotiating partners, Wilson, Lloyd George and Clemenceau, but also the states
that had just lost the war. Dmowski produced memo and map at Wilson's
request and appealed to American, British and French support by employing
their language and a historical version of the ethnographic border reasoning.
Moreover, although absent from the negotiations, the partitioning states exerted
their influence by proxy of their statistics. This influence was evidently strong
enough for Dmowski to acknowledge the population data that Germany, Austria-
Hungary and Russia had produced since they partitioned Poland.

Considering the number and variety of features in Dmowski's map, it would be
implausible to argue that cognitive artefacts are not internally heterogeneous.
The map fused Poland's past with her future, showed natural and human
geography and provoked diverging responses. Where Dmowski circumscribed the
Polish heartland, Wilson saw a Polish claim to 'a large part of the earth'.[58] Both
boundary objects and cognitive artefacts are internally heterogeneous. The
internal heterogeneity of cognitive artefacts, however, is combined with a claim to
legitimacy. The internal heterogeneity of boundary objects, in contrast, makes no
such claim. The producer of a boundary object like the map of California does
not seek to control what the user sees in the map, whether it is a constituency or
a natural habitat.[59] In Dmowski's map as cognitive artefact, in contrast, the Big
Three were supposed to see legitimate borders. Dmowski built this claim into the
features of his cognitive artefact.

Polish history was Dmowski's most important rigid feature. The solid green
outline in Dmowski's map, fig. 2.2, p. 47, represented the geographic extent of the
Polish Lithuanian Commonwealth before the partitions. To Dmowski, this green
line was the main stabilising factor for borders after 1918. It outlined the minimal
extent and the starting point for negotiations. Polish history outside of the green
line, such as the Pomeranian strip that was lost in 1296, was also rigid. The
extent to which it stabilised Poland's borders would only be determined during
negotiations though. Flexible features were the red lines, the political borders of

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[58]MacMillan, *Peacemakers*, p. 223.
[59]Star and Griesemer, 'Boundary Objects', pp. 409-10.

Germany, Austria-Hungary and Russia. They were fully flexible within the green outline of pre-1772 Poland and to an unknown degree outside of it. From Dmowski's memo it is evident that there were also other rigid and flexible features that his map did not show. Possession of the Silesian coal deposits was rigid while Prussian statistics and the German identity of the population were flexible.

2.3.3 The American vision: A state from Polish people

Isaiah Bowman, a geographer and political advisor at the Inquiry, the American group of technical experts, produced a map of Wilson's vision of Poland in October 1918, see fig. 2.4, p. 54. Bowman's map is the second cognitive artefact of this chapter. Compared to Dmowski's vision, Wilson's Poland was much smaller. She had a coast line on the Baltic Sea, but was slotted in between Russia in the east, Livonia and Courland in the north, Romania and the Czechoslovak Country in the south and Germany in the west. She controlled a wide north-south corridor that included Danzig and the Vistula River. Lithuania and Polish Livonia in the north-east were federated with Poland and enclosed German East Prussia. Like Dmowski's map, Bowman's also showed the course of the prewar border of Germany, Austria-Hungary and Russia as a red line.

Bowman overlaid large parts of the proposed Polish territory with pink or a pink hatching, which indicated the presence of a Polish population. This was a visual implementation of Wilson's statements in his Fourteen Points about ethnic separation and territories of 'indisputably Polish populations'.[60] Polish control over Danzig, a corridor to the Baltic Sea and natural resource deposits in the south-west specified the content of Wilson's other statements on the future Polish state, see fig. 2.5a, p. 55. Poland had 'free and secure access to the sea' and would enjoy 'economic independence' through deposits of iron, copper, coal, zinc, salt and petroleum.[61] These natural resources were a basis for industrialisation and means of economic survival and modernisation.

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[60]Wilson and Yale Law School, *President Woodrow Wilson's Fourteen Points*.
[61]Ibid.

Figure 2.4: CA 2, Isaiah Bowman's ethnic map of Poland from October 1918. The map showed the location of Poles (pink) and other ethnicities, but also of natural resources and major waterways.

Source: LoC, Isaiah Bowman and Woodrow Wilson, *G6521.F2 1918 .P7: The proposed frontiers of Poland*, Washington, D.C., October 1918, http://hdl.loc.gov/loc.gmd/g6521f.ct003470.
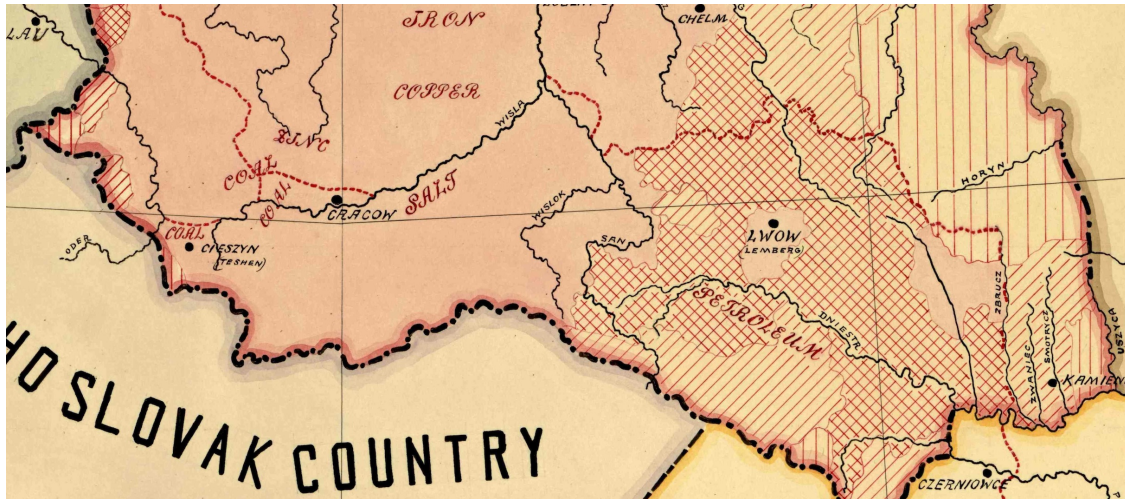
(a) Detail of Bowman's map
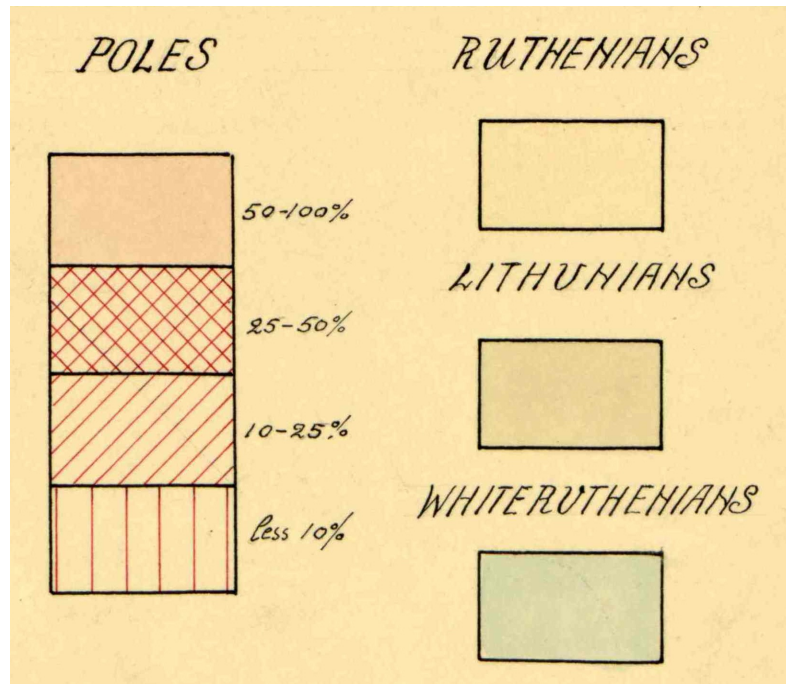
(b) Legend of Bowman's map

Figure 2.5: Details of fig. 2.4, p. 54. Bowman's colour-coding for Poles, fig. 2.5b, visually overstated their presence compared to Ruthenians, Lithuanians and Whiteruthenians. Bowman did not show other populations at all, e.g., Czechs or Germans, but added the location of resources, e.g., 'Petroleum' south of Lwow. The combination of ethnicity with other factors exemplifies the Allied strategy to define Poland's borders.

Unlike Dmowski, Bowman did not dispel and disregard the population statistics of Germany, Austria-Hungary and Russia in favour of Polish history and culture. These government statistics were the numerical sources for Bowman's colour-coding of ethnicities, see fig. 2.5b, p. 55. Bowman made a number of concessions to Polish interests though. Where the share of Poles was greater than 50% the pink was solid, areas with 25% to 50% of Poles had a dense cross-hatching, a share between 10% and 15% was indicated with a tight diagonal hatch and less than 10% with a loose vertical hatch. Ruthenians were marked in yellow, Lithuanians in light green and Whiteruthenians in light blue.[62] In the south-west and west Bowman placed Poland's political borders fairly close to her ethnic borders. They diverged somewhat to the east and west of Danzig, to create Poland's corridor to the Baltic Sea. In the south-east, east and north-east, however, Bowman drew political borders far away from ethnic borders. Here, Bowman assigned vast areas to Poland where less than 50% of the population were Polish. He thereby accepted Dmowski's argument that in this area only a Polish minority was fit to govern. Accordingly, Bowman enlarged Poland's territory approximately by a third. Bowman also accepted Dmowski's historical argument in the north-east, alluded to by the term 'Polish Livonia'. In the south-east Bowman included an area with petroleum fields around the ethnically Polish island of Lwow into the Polish state..

The rigid and flexible features in Bowman's map were different from Dmowski's. Polish ethnicity, even as a minority, was rigid and stabilised most of the south-western border to Germany, Czechoslovakia and Romania. Whiteruthenian ethnicity was a rigid feature that stabilised the border in the north-east, due to their presumed sympathy for the Poles. Polish culture was a rigid feature in the south-east and stabilised the border in spite of a large non-Polish majority. The location of resources, rivers and the Polish corridor to Danzig were rigid, too. Fully flexible features were the prewar borders of Germany, Austria-Hungary and Russia, but also the ethnicity of Ruthenians, Germans, Czechoslovaks and Romanians.

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[62]Today, Ruthenians would mostly be called Ukrainians, the closest equivalent to Whiteruthenians are Belorussians.

Bowman combined ethnic self-determination with other factors, making clear that self-determination did not apply to all ethnicities equally. This *ex ante* hierarchy was built into Bowman's map through his colour-coding scheme, see fig. 2.5b, p. 55. Bowman showed the geographic presence of Polish populations in four gradations. In contrast, he treated the presence of Ruthenians, Whiteruthenians and Lithuanians as binary. Consequently, only the pink hatching overlapped with blue, yellow and green territories, i.e., non-Polish majority areas were shown to be interspersed with Poles but not the other way around. Populations that were German, Czech, Slovak or Romanian were not colour-coded at all. This heightened the impression of Polish predominance on the southern and south-western frontier and concealed the presence of German populations in the north-west and around East Prussia. The way Bowman built population statistics into his map favoured the presence of Poles over non-Poles.

Bowman's map visualised and specified Wilson's vision of Poland's borders. There were major differences between Wilson's and Dmowski's vision, but they overlapped, too. By proxy of Bowman's map, Wilson insisted on the role of ethnicity as captured by the population statistics that Dmowski rejected. But Wilson allowed some bias towards Poles over other ethnicities, gave partial validity to Dmowski's concern with Polish history and culture in the east and generally shared Dmowski's concern with Silesian coal and resources. Wilson went beyond Dmowski's territorial demands with regard to access to the Baltic Sea. Poland's corridor was wider in Bowman's map than in Dmowski's. Bowman's map both shifted and refined how Wilson and Dmowski could reason jointly. It was a first step to clarify their common scope of agency and it narrowed the geographic range in which the borders could fall.

The maps of Dmowski and Bowman give us an opportunity to develop in some more detail the relationship between rigid, flexible and stabilised features. How do actors reason with the features of a cognitive artefact? How do these features circumscribe and structure their joint scope of agency? These questions help us to flesh out the commonalities and differences between cognitive artefacts and boundary objects in greater detail.

Both maps included Danzig and part of the coastline into the Polish state. Polish access to the sea was one of the less controversial issues between the four actors. They all agreed on the necessity for trade via the Baltic Sea. Danzig was the only place to provide the necessary infrastructure, with its port, the mouth of the Vistula River and the railways that connected to Warsaw and other cities. Dmowski and Wilson considered the Danzig port to be immobile. In addition, and this is crucial to notice, they saw the port in the same geographical location. Hence there was agreement on the rigidity *as well as* on the location of the Danzig port. This twofold agreement gave them their joint scope of agency. Because the port could not be moved and because it was where it was, borders had to be drawn so that Poland had access to the sea. Danzig's port was a rigid feature both to Wilson and Dmowski and as such it stabilised the political border they both envisioned.

The maps of Dmowski and Bowman show as well that the feature of a cognitive artefact is not equally rigid or flexible in all places and varies in its stabilising effect. For Dmowski, Polish history was so rigid within the borders of 1772 that it would stabilise borders. Outside of the 1772 borders, however, history was more flexible and had a less stabilising effect. For Bowman, Polish history was flexible in the west and the south, where it did not stabilise the border. In the east, however, Bowman did consider history to be rigid and to stabilise the border. Bowman treated Polish ethnicity the other way around. Furthermore, it seems that the less stabilising potential a feature has for an actor, the less visible it is in his cognitive artefact. Dmowski showed no ethnicities or non-Polish history in his map, Bowman played down non-Polish ethnicities and showed Polish history only implicitly, by referring to Polish Livonia. Neither of them included, e.g., climatic conditions or vegetation.

Dmowski's and Bowman's maps give further insight into the process in which cognitive artefacts are embedded. Actors iteratively produce, circulate, modify and reject them to grind out a common order of features. They establish the stabilising effect of features by producing and modifying cognitive artefacts. Non-stabilising features become invisible, stabilising features become visible and are treated as flexible or rigid. The Danzig port was rigid and had a strong

stabilising effect on the border in both maps, but Polish culture and history were much more rigid and stabilising to Dmowski than to Wilson. By going through iterations of cognitive artefacts, actors establish a common hierarchy of features and establish their effect. This gives actors their joint scope of agency.

Actors who produce and circulate cognitive artefacts seek to change the agency of their counterparts and align it with their own. Boundary objects do not attempt to do that. Star and Griesemer account for changes in the agency through 'methods standardisation', which they describe as 'developing, teaching and enforcing a clear set of methods to 'discipline' the information obtained'.[63] An example is a standardised format and a set of data that amateur collectors provided, along with the specimen they submitted to the museum.[64] Some of the terms that Star and Griesemer put forward in relation to methods standardisation can be applied to the alignment of agency via cognitive artefacts as well, others fit rather poorly. Star and Griesemer's themes of 'discipline' and 'enforcement' link up well with the power relations between actors and their respective cognitive artefacts. In contrast, 'teaching' would underplay the conflicts that Wilson, Dmowski and the others were sorting out. Furthermore, 'methods' suggests a degree of systematic rigour that reasoning and actions in 1919 did not have. Cognitive artefacts are not methodologically sound and they do not primarily appeal to reason.

Agreement on the location of the Danzig port and its rigidity was an exception. Location and status of most other features were controversial. Until they resolved these questions, the joint agency of Wilson, Lloyd George, Clemenceau and Dmowski remained suspended.

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[63]Star and Griesemer, 'Boundary Objects', p. 404.
[64]Ibid., p. 406.

2.4 At the Paris Peace Conference

2.4.1 The Polish Delegation and the weapon of statistics

The Paris Peace Conference began in the first days of the year 1919. On 29 January Dmowski verbally delivered an abridged version of the position he had developed in autumn 1918.[65] His audience was the Council of Ten. It consisted of the heads of state and foreign secretaries of the five states that were thought to be most important to the peace making process, In addition to the US, Britain and France these were Italy and Japan. Wilson, Lloyd George and Clemenceau were part of the Council of Ten. Dmowski drew up his territorial demands in broad lines, embedded in a broader pitch about Poland's role in postwar Europe. His verbal exposition was familiar to those who had previously dealt with the Polish question, but it was less axiomatic and historical than his memo of October 1918. Dmowski was more concerned with the acute threats that Poland faced and her resulting need for 'arms and ammunition'.[66]

Meetings before the conference and Bowman's map had driven home to Dmowski that the Allies would indeed draw on population statistics to determine Poland's border. Hence he framed the border question as a matter of inexistent Polish statistics. Poland, for Dmowski, could not easily state what her territory and who her people were. Unlike France or Great Britain, Poland had neither well-defined frontiers nor her own statistics. Therefore, her borders could not be deduced from statistics by including 'only those territories where the Poles were in a large majority'.[67] Instead, the historical boundaries of 1772 should be the starting point for negotiations and then modified by current conditions. On such grounds Dmowski argued that he could not accept the border of 1772 in the west. Silesia, e.g., had been lost already in the 14th century, but saw a strong 'national revival'

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[65]For an appraisal on the success of Dmowski's strategy in Paris, see: Wandycz, 'Dmowski's Policy at the Paris Peace Conference: Success or Failure?'

[66]Lundgreen-Nielsen, *The Polish Problem in Paris*, pp. 38, 168-9.

[67]British Foreign Office, *British Documents on Foreign Affairs: Reports and Papers from the Foreign Office Confidential Print. Part II, Series I: From the First to the Second World War. The Paris Peace Conference 1919*, ed. Michael Lawrence Dockrill, vol. 2 (University Publications of America, 1989), p. 46.

as '90 per cent of the population [...] was strongly Polish'.[68] Dmowski argued that Polish territory was Germanised so thoroughly that it could be identified by the presence of 'anti-Polish laws'.[69] Dmowski granted that 'the bulk of the population' in the east was no longer Polish so that 'a large portion [should] remain under Russia' and no claims could be laid to the Ukraine or Lithuania.[70] Eastern Galicia, although 'a disputed territory', should go to Poland because the native Ruthenians were not fit to form their own state, with only 16,000 of them in 'intellectual professions' as opposed to 400,000 Poles.[71] Dmowski verbally iterated and emphasised what he had written in October 1918: official German statistics were weapons in the war against Poland.

Dmowski went to great lengths in trying to dispel and delegitimise population statistics. He realised that his vision of Poland became weaker, the more his negotiating partners would draw on German government data. Dmowski's efforts emphasise on the one hand the competitive character that cognitive artefacts have and boundary objects lack. On the other, they point to a set of questions that revolve around the credibility and availability of cognitive artefacts. Star and Griesemer introduce 'repositories' as a type of boundary object.[72] These are 'ordered 'piles' of objects' from which actors can 'borrow [...] for their own purposes without having directly to negotiate differences in purpose'.[73] We can think of Dmowski's efforts as an attempt to remove German statistics from the repository on which the Big Three could draw.

Actors do not just compete through their cognitive artefacts, they also compete over the artefacts that get produced and circulated in the first place. While Star and Griesemer do not deal with this dimension, the results of the travelling facts project, compiled by Peter Howlett and Mary Morgan (2011), provide a framework that allows us to explore the issue.[74] Howlett and Morgan argue that facts travel well under two conditions. First, they have to preserve their

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[68]British Foreign Office, *The Paris Peace Conference 1919, vol. 2*, p. 46.
[69]Ibid., p. 47.
[70]Ibid.
[71]Ibid., p. 48.
[72]Star and Griesemer, 'Boundary Objects', p. 410.
[73]Ibid.
[74]Howlett and Morgan, *How Well do Facts Travel?*

'integrity' while moving between spheres; second, they have to be 'fruitful' in the sense that they find 'new users' and 'new uses'.[75] Dmowski feared that German statistics, a tool for suppression to him, might have integrity to his negotiating partners. Moreover, he worried that German statistics might prove fruitful in the hands of the Big Three in negotiating the Polish border. Was he successful in destroying the integrity of German statistics? If not, was there another way for him to prevent German statistics from being fruitful?

Dmowski's worries were justified. The Big Three did not let go of German statistics. Their response to his statement to the Council of Ten lead Dmowski to adjust his reasoning again and he set out to forge a statistical weapon for Poland himself. By February Dmowski had fashioned a written argument in the mixed style of Bowman's map. In his memo *The Economic Situation of Poland* he brought together aspects of Polish ethnicity, regional stability and resource driven development.[76] Dmowski discussed the progress that had taken place during the 150 years of Poland's partition. If these parts were put together, he argued, they would 'create particularly favourable conditions for the economic development of Poland'.[77] He described the sizeable vision for Poland that he also presented in his map, concluded that such a state had 'the economic character of France before the war' and supported his argument with statistics, see fig. 2.6, p. 63.[78] Poland's territory, population number and annual production of rye (French: *seigle*) and sugar would equal that of France, Polish production of coal and potatoes would surpass French output.

When Dmowski failed to cancel German statistics, he tried to supplant them with Polish statistics. Dmowski's numbers on population and territory stand in the tradition of the forefathers of statistics, such as Gottfried Achenwall, Anton Friedrich Büsching and August Friedrich Wilhelm Crome. In the late 18th and early 19th century the size of territory and population had become staple

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[75]Howlett and Morgan, *How Well do Facts Travel?*, p. 12.

[76]ADDF, Roman Dmowski and Polish Delegation at the Peace Conference, *294QO/074 : Mémoire sur la situation économique de la Pologne unifiée et sur l'urgence de donner satisfaction à ses besoins économiques*, Paris, February 1919, pp. 3-4.

[77]ADDF, ibid., p. 6.

[78]ADDF, ibid., p. 7.

	France	Pologne
Étendue en milliers de kilomètres carrés.............................	537	500 (1)
Population en millions	39,6	38

Sous le rapport de sa production en seigle, froment et sucre, la Pologne égalera à peu près la France.

	France	Pologne
Froment et seigle (en millions de quintaux)	100	93
Sucre .... environ.	6,4 (2)	7,2

Sa production en charbon, une fois 1/2 celle de la France.

Sa production en pommes de terre, le double de la production française.

	France	Pologne
Houille (en millions de quintaux)	405,6	600
Pommes de terre..	150,5	310

Figure 2.6: CA 3, Polish statistics by Dmowski from February 1919. Dmowski mimicked the Allied approach of combining ethnicity with other considerations. His statistics of territory, population, rye and wheat production, sugar, oil and potatoes showed, Dmowski argued, that his border proposition would make Poland a state as strong as France, capable of defending herself. A *quintal*, the unit in which rye is given, is roughly equivalent to a centner; from Arabic *quintâr*, weight of a hundred, via medieval Latin *quintale*.

Source: ADDF, Roman Dmowski and Polish Delegation at the Peace Conference, *294QO/074 : Mémoire sur la situation économique de la Pologne unifiée et sur l'urgence de donner satisfaction à ses besoins économiques*, Paris, February 1919, p. 8.

measures for comparing the strength of states.[79] The twist of Dmowski's numbers was that the Polish state, as Dmowski himself rightly pointed out, did not have any statistics of his own. Like Bowman in his ethnicity map, Dmowski built on German, Russian and Austro-Hungarian data in calculating Poland's territory, population and potato output. The data sources of Dmowski's Polish statistics were the very same that he unsuccessfully tried to deconstruct in his statement to the Council of Ten in January 1919.[80]

Without foreclosing too much, Dmowski's Polish statistics were a cognitive artefact that the Big Three rejected. To them, Dmowski's Polish statistics had less integrity than the statistics of Poland's former occupiers. This is not surprising. Creating numbers that have integrity across different social spheres, creating numbers that are valid, takes much more than compiling and comparing data on territory and potato harvest. Theodore Porter (1995) shows that it 'requires a massive exercise of social power' for an actor to establish what to count, how to count it and how to measure it.[81] States achieve the publication of valid numbers only after long struggles for power, a kind of power that Dmowski did not have.

Dmowski's Polish statistics failed in February 1919. That was the time when Polish forces began to push eastwards, against the Russian army. The actors who determined Poland's eastern border were no longer Dmowski and the Big Three and the means of agency were no longer diplomatic. Agency over the eastern border moved to Józef Piłsudski, the notorious opponent of Roman Dmowski. Piłsudski was Head of the Polish Government in Warsaw in 1919. His view on border arrangements had always been different than Dmowski's. The Polish state, thought Piłsudski, should determine his borders directly with his neighbours,

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[79]Sybilla Nikolow, 'A.F.W. Crome's Measurements of the 'Strength of the State': Statistical Representations in Central Europe around 1800', *History of Political Economy* 33, Sup. (2001): 23–56.

[80]The data for France was taken from French statistics. According to the prewar census of 1911, France had a territory of 536,464 square kilometres and a population of 39.6 million, see Statistique Génerale de la France, *Résultats statistiques du recensement général de la population effectué le 5 mars 1911*, vol. 1 (Imprimerie nationale, 1913), p. 47.

[81]Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, NJ: Princeton University Press, 1995), pp. 33-48.

either through military means or diplomatically. To Piłsudski, the main obstacle to a Polish state was Russia. He was a soldier of aristocratic descent, grew up in the Russian part of Poland and experienced the suppression of Polish culture. Raised to keep his heritage alive, he became both a nationalist and a radical socialist. Piłsudski had fought the war on the side of Austria-Hungary. Hence Poland had in effect two governments in early 1919, Piłsudski in Warsaw and Dmowski in Paris. While Dmowski negotiated in Paris, Piłsudski governed in Warsaw and mended together different administrations, currencies and railway systems. Piłsudski carried little weight in Paris, but when the diplomats dropped the question of the eastern frontier it landed in his lap.[82] The result of the military movement that began in February 1919 was the Polish-Russian border that was settled with the Treaty of Riga in March 1921. This concluded the piecemeal process that defined Poland's post-World War I borders. In the end Poland had a territory of 387,826 square kilometres and a population of 26.9m.[83]

From February 1919 onwards the cognitive artefacts of the actors in Paris dealt with a much smaller geographic area than before. Poland's east disappeared from their maps and they focused on the border with Germany. The diplomatic scope of agency had become more narrow and more specific. After Dmowski's Polish statistics failed in Paris, the Polish Army began its offensive in the east. This timing indicates that the production, circulation and rejection of cognitive artefacts allows actors to identify the outer limits of their agency. In Paris they learned that they would not fix the eastern border. Hence agency over the Polish-Russian border fell to Piłsudski, who disposed of different means than the diplomats.

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[82]MacMillan, *Peacemakers*, pp. 217-21; Lundgreen-Nielsen, *The Polish Problem in Paris*, pp. 48-57, 169.

[83]Eugene Romer, 'The Population of Poland according to the Census of 1921', *Geographical Review* 13, no. 3 (1923): p. 399.

2.4.2 The case of Kwidzyn: Moving railways or people?

Kwidzyn, Marienwerder in German, is both the name of a city and a district about 100km south of Danzig. It became one of the focal points of border diplomacy. As Polish military resources concentrated in the east, the resources of the conference concentrated on the west. There, the most contentious issues were Upper Silesia, Danzig and East Prussia. Upper Silesia had industry and coal that could give Poland an industrial base. The population was predominantly Polish, but not as numerous and nationalistic as elsewhere. Danzig had the port and a strong German majority. East Prussia had vital transport links and a strong German majority, too. Furthermore, there was a strategic threat that the Polish corridor could be easily closed off by Germany, if East Prussia was not trimmed back far enough. Kwidzyn sat in the south-western corner of East Prussia, on the eastern bank of the Vistula. The river could be controlled from the city and it was a transit point for the most direct railway line from Danzig to Warsaw, see fig. 2.11, p. 77.

In early 1919 Dmowski and the Polish Delegation produced a map that spoke to the issue of transport links to and from Danzig. In this map Dmowski went much further than before in accepting ethnicity as a rigid feature. He showed the ethnographic make-up of Prussian Poland, see fig. 2.7, p. 67. The numerical sources were various Prussian government statistics. The darker the territory, the greater was the share of Poles. As in Bowman's map, the black-and-white scheme visually downplayed the presence of non-Poles. There were five categories that ranged from 0.5-10%, 10-25%, 25-40%, 40-50% and from 50-100%, see fig. 2.8, p. 68. The map only showed Polish populations and the three highest categories in very dark shadings. This created the impression of areas with a strong Polish presence, even if the ethnic share was just at 25%.[84]

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[84]On the map the Agence Polonaise Centrale (APC) is named as author. APC was founded in September 1915 in Lausanne and coordinated the activities of those Polish news agencies during the war that were on the side of the Entente. Chairman of the APC from 1916 was Marian Seyda. He was a member of the Committee for Encyclopaedic Publications on Poland, based in Lausanne and Fribourg, Switzerland, and of Dmowski's Polish National Committee KNP. At the Peace Conference Seyda was an expert of the Polish Delegation, see Halina Florkowska-Frančić, *Seyda, Marian*, Historisches Lexikon der Schweiz, 2012, http://www.hls-dhs-dss.ch/textes/d/D28490.php.
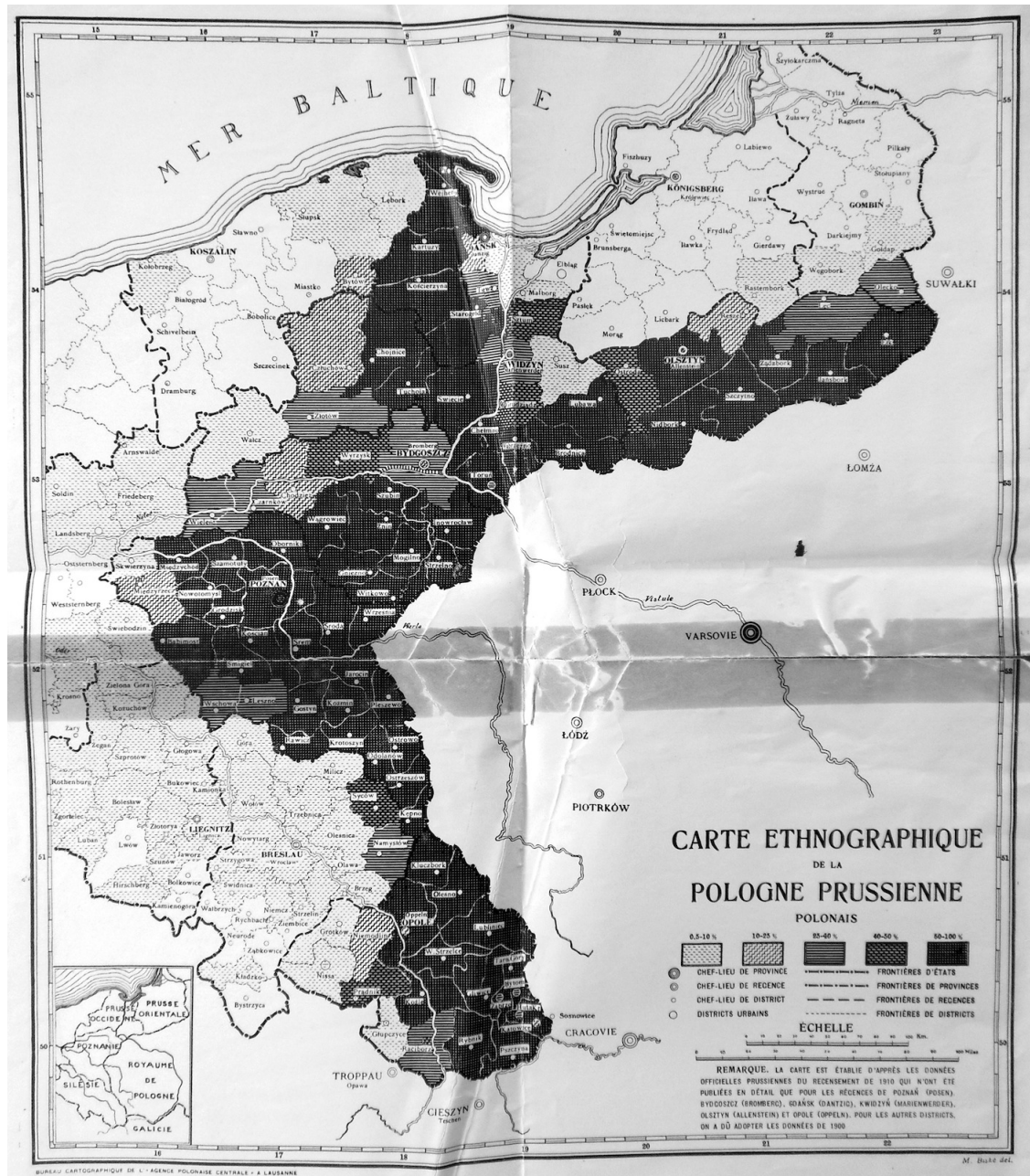
Figure 2.7: CA 4, an ethnographic map of Polish Prussia by the Polish Delegation from early 1919. The map was based on on the Prussian censuses of 1905 and 1900. The darker the area, the greater the statistical share of Poles.

Source: ADDF, Roman Dmowski, Polish Delegation at the Peace Conference and Agence Polonaise Centrale, *294QO/071 : Carte ethnographique de la Pologne Prusienne*, Paris, Lausanne, February 1919.

(a) Polish ethnography around Kwidzyn, based on census
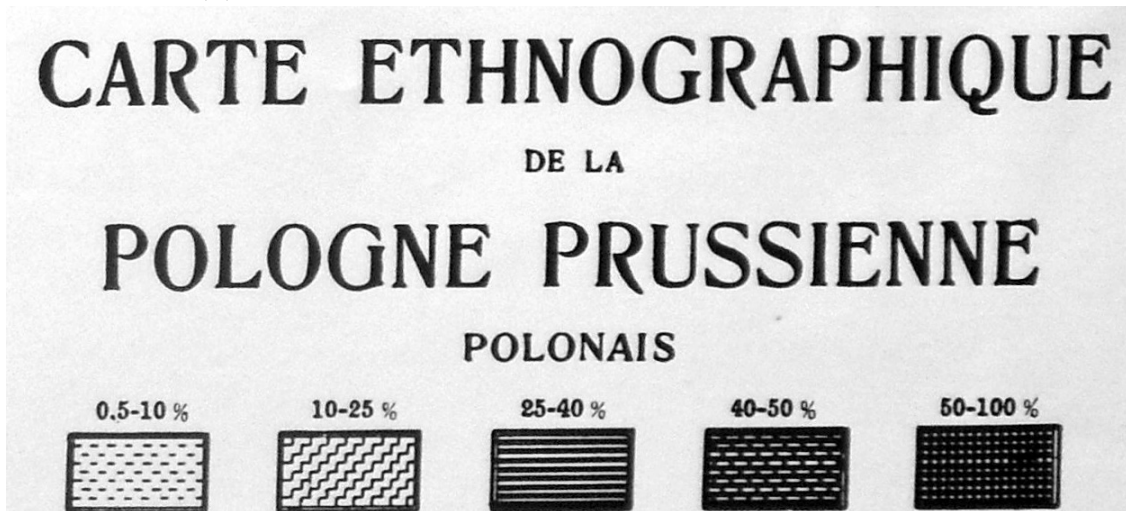
(b) Legend and colouring-scheme

Figure 2.8: Details of fig. 2.7, p. 67. The area south-east of Kwidzyn was a contentious issue between the Allies. The direct railway line Danzig-Warsaw, considered an important piece of infrastructure for Poland, ran over territory with a predominantly German population. The black-and-white gradation, fig. 2.8b, visually favoured the presence of Polish.

Dmowski and the Polish Delegation produced a second version of this map, too. It was constructed identically, but had a different data source. Instead of census figures it visualised official primary school statistics from 1911. As a consequence, those districts were darker through which the direct Danzig-Warsaw railway ran, see fig. 2.9, p. 70. In the second version the districts of Kwidzyn, on the south-western fringe of East Prussia, and the district Susz looked more ethnically Polish.

Ethnographic maps are numerical-visual hybrids.. They show statistical data in a spatial distribution. Discrete numbers are subsumed under ranges, which are translated into a colour-coding scheme. Between October 1918 and early 1919 Dmowski changed the vision he presented to his counterparts from an historical to an ethnographic version. Through the production, rejection and modification of cognitive artefacts he aligned a great deal of his reasoning and his interests with the Big Three. Ethnicity, as measured by German statistics, had become a rigid feature to him as well.

Dmowski produced more artefacts than the Big Three. He also tried harder to align his reasoning and his agency to his counterparts. From this asymmetry we can hypothesise about the relationship between an actor's power, his stakes in the process and his output of cognitive artefacts. Between the four of them, Dmowski was probably the weakest actor. He reasonably expected that Polish borders would be less secure without the support of the Big Three. Dmowski's stakes were probably the highest, too. Insecure borders, as history has taught Poland, are an existential matter for a state. Wilson's state was on the other side of the Atlantic Ocean. Lloyd George's Britain was protected from continental threats by the English Channel. Clemenceau's France was stronger than Poland and had just one open flank.

On 12 February 1919 the Big Three set up the Commission on Polish Affairs, to coordinate on technical aspects of the border question. The Commission consisted of an American, British, French, Italian and Japanese representative. Japan and Italy completed the group of the five major powers at the conference. Japan was given a formally prominent role as she had fought World War I against
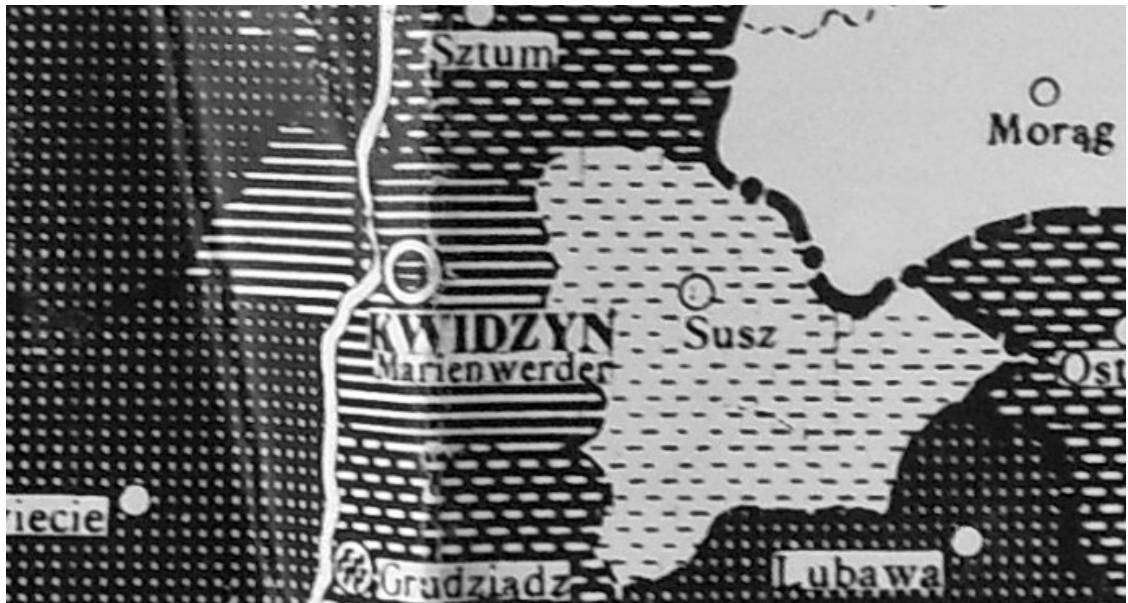
(a) Polish ethnography around Kwidzyn, based on census

(b) Polish ethnography around Kwidzyn, based on primary school statistics

Figure 2.9: Details and variation of fig. 2.7, p. 67. The Polish Delegation produced two versions of its ethnographic map. One was based on the Prussian census, fig.2.9a, the other was based on primary school statistics, fig. 2.9b. The latter showed a greater presence of Poles in the districts Kwidzyn and Susz and was adduced in the Allied debate by French politicians and experts.
Source: ADDF, Roman Dmowski, Polish Delegation at the Peace Conference and Agence Polonaise Centrale, *294QO/071 : Pologne Prussienne : La nationalité des enfants dans les écoles primaires d'après la statistique du gouvernement prussien de 1911*, Paris, Lausanne, February 1919.

Germany in the Far East and in the Pacific. The American member of the Commission on Polish Affairs was Isaiah Bowman. The Commission's terms included the 'question of boundaries of the Polish State' and how to give it 'some prospect of continued life'.[85]

The Commission submitted its first proposal to Wilson, Lloyd George, Clemenceau and the other members on the Council of Ten on 12 March 1919. The proposal explicated and refined the synthetic mode of reasoning that had emerged through the production, circulation and modification of cognitive artefacts up to that point:

> (a.) That primary consideration be given to the line of ethnic separation in such a way as to secure the fairest possible settlement between the two peoples concerned.
> (b.) That rectifications of the frontier, in some places in favour of the Poles and in others in favour of the Germans, be made where the ethnic facts are outweighed by the other facts and principles involved.
> (c.) That due weight be attached to lines of religious cleavage, as, for example, in Mazuria, where a Protestant population exists which is Polish in speech and race.
> (d.) That slight adjustments be made in a line based on the above determining considerations wherever such adjustments would make the proposed line coincide with a well-recognised line of historical division, as, for example, on the borders of the province of Poznania, which coincide with the frontier of the Kingdom of Poland prior to 1772.
> (e.) That natural economic relations and existing means of communication be taken into consideration in order that the normal industrial life of each community should be restored as quickly as possible.

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[85]London School of Economics Archives (hereafter LSEA), Commission on Polish Affairs of the Paris Conference, *Webster Papers : 3/10/18 : Report No. 1: Frontier between Poland and Germany*, 1919, p. 1; British Foreign Office, *British Documents on Foreign Affairs: Reports and Papers from the Foreign Office Confidential Print. Part II, Series I: From the First to the Second World War. The Paris Peace Conference 1919*, ed. Michael Lawrence Dockrill, vol. 3 (University Publications of America, 1989), p. 42.

(f.) That account be taken of the exposed situation of Poland between Russia on the one hand and Germany on the other, and that after all the above factors have been duly taken into consideration, attention be paid to the strengthening of the defensive frontiers of the new Polish State. While such a strengthening in no case gives Poland any advantage for offensive action, it diminishes to some extent the dangers which threaten her, exposed as she is to attack on the east, the west, and the north over unobstructed plains which offer at best but insignificant natural defences.[86]

True to the idea that the Commission operated in a space of mediation and reason, it laid out its principles prior to its recommendations, see table 2.3, p. 72. 'Ethnic separation' was given as primary objective. It was qualified by 'expedient rectifications', which could be 'religious cleavage', the 'historical division' of the land, 'natural economic relations and existing means of communication' and a geostrategic concern for Poland's security. The order of these six points was intended to mirror a hierarchy of application.

Table 2.3: Border making principles of the Paris Peace Conference, 1919

No.	1919[1]
1	Ethnic separation
2	Expedient rectifications where ethnic separation is outweighed by other factors:
2.1	Religious affiliation, especially where it does not follow ethnicity
2.2	Historical borders
2.3	'Natural economic relations & means of communication'
2.4	Defensibility of the Polish state

[1] *Source:* LSEA, Commission on Polish Affairs of the Paris Conference, *Webster Papers : 3/10/18 : Report No. 1: Frontier between Poland and Germany*, 1919, p. 2.

In the introduction I have argued that the term cognitive artefact does usually not apply to written documents. There are written documents, however, that have some of the features of cognitive artefacts. Examples are the ordered sequences of verbally expressed ideas and principles, such as the border making principles of

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[86]LSEA, Commission on Polish Affairs of the Paris Conference, *Report No. 1*, p. 2.

the Commission on Polish Affairs, table 2.3, p. 72, or Dmowski's requirements of the Polish state, table 2.2, p. 51. Beyond that, there is an important and close relationship between verbal statements and cognitive artefacts: it is evident from Dmowski's map that Polish history was more important to him than ethnicity, but his written and verbal statements provided background and detail that were not explicitly present in the map. For example, meaning and purpose of the number 1296 written into Pomerania, fig. 2.3, p. 48, were only accessible to a map user who knew about history and its meaning to Dmowski.

My reason not to apply the term cognitive artefact to verbal expressions generally is that the latter have a much greater degree of ambiguity. I do not think that Wilson, Lloyd George and Clemenceau knew what Dmowski's writings and statements meant for the exact location of the border. Language, in particular the language of diplomacy, is flexible. It is rife with suggestion and intimation. Cognitive artefacts, in contrast, cut through such vagueness. The decidedness of the border on Dmowski's map triggered Wilson's to exclaim that the Poles wanted 'a large part of the earth'.[87] Dmowski, Lloyd George and Clemenceau only understood the bearing of Wilson's 'indisputably Polish populations' on borders once they saw Bowman's map.[88] Actors in diplomatic processes adopt clear positions in their cognitive artefacts, but rarely in their verbal statements.

Concerning Poland's prospect of continued life, a number of points are worth noticing. First, the issue of Poland's security, pinched between Russia and Germany, was only a qualifying clause for the Commission. Second, economic considerations were given in subordination to ethnic identity and only in a very toned down manner. The Commission stated that 'natural economic relations and existing means of communication' were taken into account to restore the 'normal industrial life' of self-contained communities. The Commission mentioned neither trade nor natural, industrial or human resources, not to speak of distributional conflicts, e.g., over the industry and coal of Upper Silesia. The Commission was both purposely vague and coy in phrasing its principles. The

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[87]MacMillan, *Peacemakers*, p. 223.
[88]Wilson and Yale Law School, *President Woodrow Wilson's Fourteen Points*.

words had to leave considerable ambiguity so that the different factions and
diverging interests, which had to be represented, could sign up to them.

The Commission supported its own proposal with a statistical table on the
number of Poles and Germans it would assign to Poland, see fig. 2.10a, p. 74.
Figures for the border proposition by Dmowski and the Polish Delegation were in
columns one and two, for the Commission's proposition in columns three and
four. Columns five and six showed the difference. The Commission's proposal
reduced the number of Germans in Poland by 805,000 and that of Poles only by
365,200. The Commission relayed its data sources and provided commentary on
its cognitive artefact in the footnotes, see fig. 2.10b, p. 74.

NATIONALITIES CLAIMED BY AND ASSIGNED TO POLAND.*

Regierungsbezirke.	Population Claimed.		Population Assigned.		Difference.	
	Poles.	Germans.	Poles.	Germans.	Poles.	Germans.
Pomerania	7,800	132,100	700	11,700	7,100	120,400
Danzig	192,300	511,400	191,800	412,800	500	98,600
Marienwerder	375,000	502,000	362,000	427,400	13,000	74,600
Bromberg	365,300	354,700	356,300	310,700	9,000	44,000
Breslau	26,100	50,000	2,000	38,300	24,100	11,700
Oppeln	1,082,700	516,700	1,112,800§	574,500§	(—30,100)	(—57,800)
Posen	850,900	406,600	819,500	348,000	31,400	58,600
Königsberg	400	196,700	—	5,200	400	191,500
Allenstein	276,800	242,800	9,700	4,000	267,100	238,800
Gumbinnen	12,500	24,600	—	—	12,500	24,600
Total	3,189,800	2,937,600	2,854,800	2,132,600	365,200†	~~862,800~~
						805,000

(a)

* German Census (1905), which includes German Army and officials, and is strongly biassed.
§ About 20,000 Germans, 50,000 Czechs, and a few Poles will be assigned to Czecho-Slovakia.
† Includes 267,100 in area prescribed for Plebiscite.

(b) Footnotes to table

Figure 2.10: CA 5, statistics from 12 March 1919 by the Commission on Polish
Affairs. The Commission argued, fig. 2.10a, that its own border proposition (column
'Assigned Germans') achieved a greater degree of ethnic separation than the borders
demanded by the Polish Delegation (column 'Claimed Germans'). The Commission
constructed its statistics, fig. 2.10b, in selectively invalidating the Prussian census
and drawing on elements of it.
Source: LSEA, Commission on Polish Affairs of the Paris Conference, *Webster Papers
: 3/10/18 : Report No. 1: Frontier between Poland and Germany*, 1919, p. 9.

With this cognitive artefact the Commission showed that its frontier provided for a greater degree of ethnic separation. In creating its table the Commission performed a number of operations. It translated its own and Dmowski's borders from a geographic into a quantitative relationship. Moreover, it transformed existing German statistics into statistics of the Peace Conference. The Commission deconstructed German statistics, then assembled fragments into new interallied statistics and validated it. These steps happened simultaneously and were directed at different parts of the cognitive artefact.

The strongest aspect of deconstruction was the breaking up of the German government districts as valid territorial and statistical units. In the table, Pomerania, Danzig, Marienwerder etc were divided into Polish and German parts, i.e, they were divided and recast into new units. Their validity no longer depended on the social power of the German state, but on the power of the Peace Conference. The limits of these new units were not yet stable, Dmowski and the Big Three were still wrangling. The footnotes to the artefact are further indicators that the German state had partially lost power over its numbers. Where plebiscites would be held, footnote †, that power would ultimately shift to the local population. For the population of Oppeln it had fallen to those who defined the borders of Czecho-Slovakia (§). The German soldiers and officials that were included in the German census of 1905 (*), would be made to leave and thereby render the old official statistics biased.

Comparison was another strategy that the Commission employed to make its numbers valid. The Commission applied the criterium of ethnic separation and compared numbers for its own borders with those of the Polish Delegation. The footnotes played a role in validating the new object, too. Footnote † stated that the figure 365,200 included the number of Poles that lived in plebiscite areas, i.e., that it was a maximum figure. Footnote * referred to the inclusion of administrative and military personnel in the census, which meant that the 2,132,600 Germans assigned to Poland, column 4 in fig. 2.10a, p. 74, were a maximum figure as well. The Commission's frontier would thus achieve an even greater degree of ethnic separation than the numbers stated.

To give the numerical artefact validity, it was important that the challenge of the German state and the concomitant deconstruction of its statistics was only partial. Only certain elements of the old object were deconstructed and only to a certain extent. The government districts were properly broken up. The numbers, the Commission argued, counted too many Germans, but were not wrong enough to be completely useless. The Commission kept the units of account intact, individuals and their Polish or German identity, to make the argument of ethnic separation work. One rigid feature of the Commission was a binary notion of identity of numerable individuals. People could be counted and they were either Polish or German. A second rigid feature was the location of the ordinary population, while the Commission considered the location of German officials and soldiers to be flexible. The Commission's calculation assumed that the population would be in the same place once the Polish-German border was drawn, as it had been when the census was taken in 1905. These rigid and flexible features of the Commission's cognitive artefact stabilised its own border proposition and destabilised Dmowski's. Moreover, the Commission's artefact further specified the scope of agency of Dmowski and the Big Three. In addition to drawing borders by appealing to ethnicity, the actors could schedule plebiscites and move German soldiers and public servants.

The Commission laid out its recommendation of the Polish-German border on 12 March 1919 with a written exposition and a map. Kwidzyn became a hot topic in the ensuing discussion of the Big Three. Fig. 2.11, p. 77, shows the area where the Polish corridor to the Baltic Sea bordered on East Prussia. The solid red line marked the proposed frontier, with East Prussia in the north-east and Poland in the south-west. Danzig was in the north-eastern corner. Kwidzyn was labelled with its German name Marienwerder, just west of a 90° bend in the frontier, on a u-shaped railway connection between Elbing and Danzig. In the south-eastern corner of the close-up is the city of Mława. Here is how the Commission's reasoned for the frontier in this area:

> (g.) *West Prussia east of the Vistula*
> The Commission considers it necessary that the Dantzig-Dirschau-
> Mlawa-Warsaw railway should be in Polish hands. This involves the
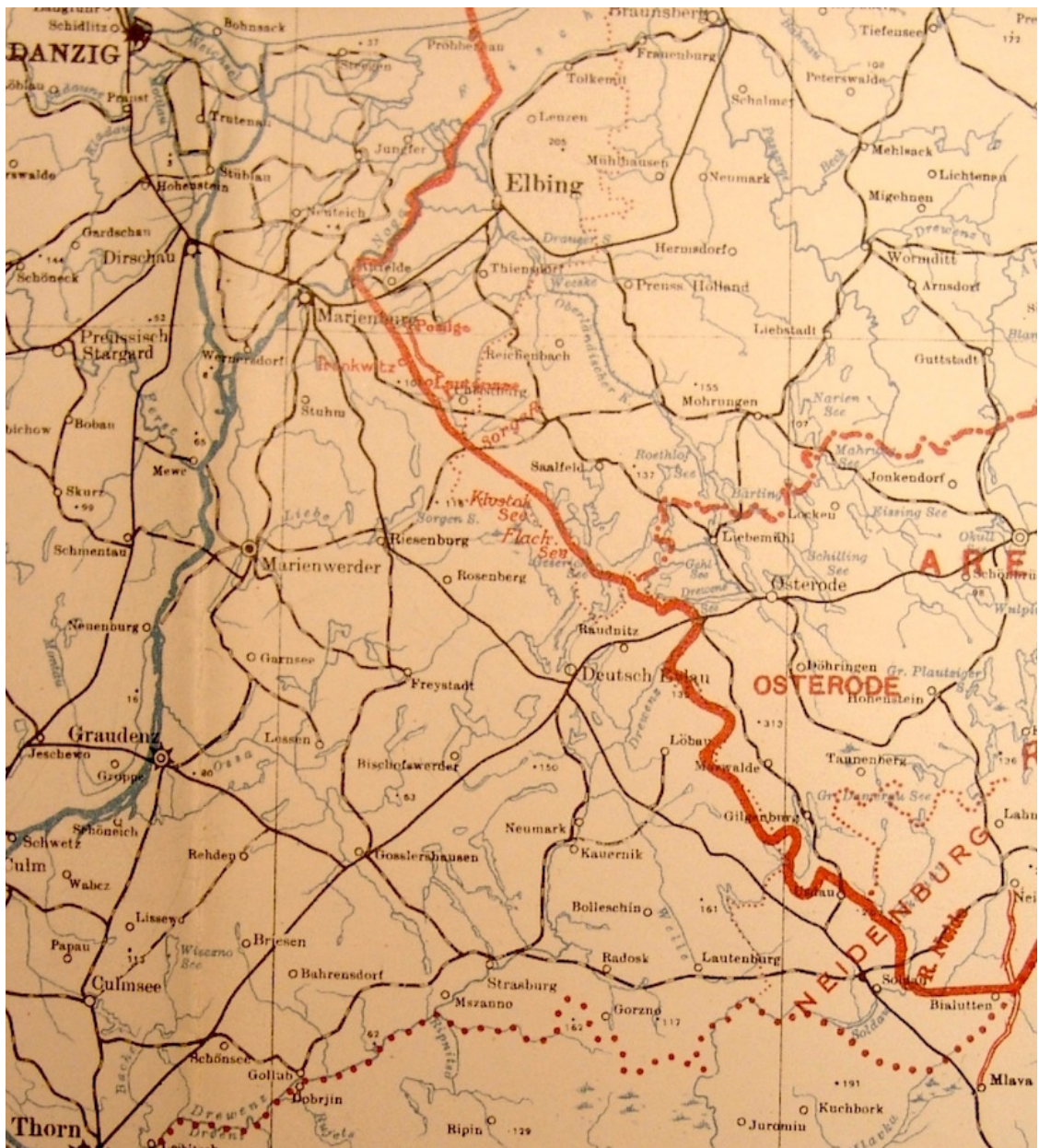
Figure 2.11: CA 6, detail of the map by the Commission on Polish Affairs from 12 March 1919. East and south-east of Kwidzyn the commission recommended a border (solid red line) that included the Danzig-Mława-Warsaw railway (thin black line) into Poland. The Commission argued that the railway line was vital to Poland. This meant the inclusion of Germans into Poland, which lead to a controversy between Lloyd George and the French Delegation.

Source: LSEA, Commission on Polish Affairs of the Paris Conference, *Webster Papers : 3/10/18 : Report No. 1: Frontier between Poland and Germany*, 1919.

annexation to Poland of a certain number of Germans in the northern part of West Prussia east of the Vistula, although even in this region there are considerable areas, notably in a portion of the *Kreis* [county] of Stuhm (Sztum), where the Poles are in a majority. Incidentally it will enable the Poles to control both banks of the Vistula, thus avoiding the complication of dual control.

In view of the importance to Poland of the Dantzig-Dirschau-Mlawa railway, it will further be necessary to exclude from the proposed plebiscite in East Prussia a very small area inhabited by Protestant Poles in the southern corner of *Regierungsbezirk* [district] Allenstein (Olsztyn), which considerations of transport make it necessary to assign definitely to Poland.[89]

The border between Poland and West Prussia exemplifies the Commission's synthetic reasoning, see table 2.3, p. 72. In the case of Kwidzyn, the Commission locally disregarded ethnic separation in favour of the Danzig-Mława railway that continued towards Warsaw in the south-east. This was not the only connection between the capital and Danzig, but it was the most direct. Giving it to Poland meant to assign her a 'certain number of Germans', which was attenuated by a number of positive side-effects. The annexation also included certain areas where the Poles were in a majority. Avoiding dual control of the Vistula improved Poland's defensive capability and a number of Protestant Poles would also be included into Poland.

The Commission's written exposition tried to paper over a conflict that flared up between Clemenceau and Lloyd George during the discussion. Instead of quantifying the numbers of Germans and Poles that were affected by the border in this area, the Commission's wording was vague. The phrase 'avoiding dual control of the Vistula' understated the strategic importance of Kwidzyn. In the map the Commission avoided the issue of ethnicity altogether. It showed cities, railways, waterways and political borders. For the aggregate level, the Commission produced a numerical artefact that exclusively dealt with ethnic

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[89]LSEA, Commission on Polish Affairs of the Paris Conference, *Report No. 1*, p. 4. Italics in original.

separation and emphasised the great degree to which it would be achieved. In the concrete instance, in fact on all the maps it produced, the Commission omitted the location of Germans and Poles.

The rigid features of the Commission's map were cities, railways and waterways. Kwidzyn, the Danzig-Mława line and the Vistula stabilised the political border that the Commission proposed. While ethnicity was not a feature of the Commission's map, it was a rigid feature of its table. How can we explain the phenomenon that ethnicity flickered in and out of the Commission's reasoning, depending on the type of cognitive artefact? Quantifying ethnicity on the aggregate level, i.e., in the statistical table, had a stabilising effect on the Commission's border. Visualising ethnicity on the disaggregate level, i.e., in the map, would have had the opposite effect. Different types of cognitive artefacts enabled the Commission to create coherence on different levels and according to different criteria. The rigid feature on the micro level was a railway line. The rigid feature on the macro level was ethnicity.

While the Allies were proportionally represented on the Commission, production of the Commission's maps was in the hands of the geographical service of the French Army. Quantifying ethnicity, but not visualising it, was an attempt to strengthen Poland at the expense of Germany. Clemenceau tried to align Wilson and Lloyd George to his position. Whether or not Wilson and Lloyd George accepted the cognitive artefacts of the Commission would show whether or not Clemenceau's agency extended so far that Kwidzyn and the Danzig-Mława railway could be included into Poland.

2.4.3 The Supreme Council

Wilson, Lloyd George and Clemenceau discussed the Commission's border recommendation on 19 March 1919. The three were members of the conference's Supreme Council, another name for the Council of Ten. Typically, they were accompanied by their ministers of foreign affairs and a selection of national experts that could speak to the question at hand. Jules Cambon, the French

Chairman of the Commission, laid out its deliberations prior to the discussion. He rehashed the general impossibility of strictly ethnographic borders anywhere in Central or Eastern Europe, the need to consider economic and strategic factors so that Poland had a 'fair chance of surviving' and Germany's systematic anti-Polish politics.[90] The frontier in the north, Cambon remarked before dealing with specific sections, had been drawn 'in accordance with school statistics'.[91] Danzig had a mostly German population but there were economic, strategic and military reasons to accord it to Poland, just like the two railways to Mława and Thorn that gave the port 'communication with the interior'.[92]

Cambon's exposition reveals that the Commission drew on the second version of Dmowski's ethnographic map, the one based on school statistics. That version showed a stronger Polish presence in the north and in Kwidzyn than the first version, based on the Prussian census. Of the two versions that Dmowski produced, the Commission's interests were better met by the version that showed a greater Polish presence in Kwidzyn. It stabilised a border that allowed the inclusion of Kwidzyn and the Danzig-Mława railway into Poland.

Lloyd George rejected Dmowski's ethnographic map and the cognitive artefacts of the Commission. He interrupted Cambon's exposition and objected to the border with East Prussia. To Lloyd George that border meant to 'hand over millions of [Germans] to a distasteful [Polish] allegiance merely because of a railway'.[93] The preferable solution was to 'accord communication' to Poland across German territory.[94] Wilson reminded Lloyd George of Germany's political colonisation in the region and Cambon argued that much of the German population would emigrate quickly once Poland was constituted, as it was of 'recent importation'.[95] Lloyd George in response focused his critique and dissented exclusively to the 'assignment to Poland of areas whose whole history was German' and where there was a German majority - the districts of Danzig and Kwidzyn.[96]

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[90]British Foreign Office, *The Paris Peace Conference 1919, vol. 3*, p. 40.
[91]Ibid.
[92]Ibid.
[93]Ibid., p. 41.
[94]Ibid.
[95]Ibid.
[96]Ibid.

Cambon, speaking for Clemenceau, replied that historically 'the real end of Poland did not come in 1772', but with the loss of Danzig in 1743; that showed that 'without that port Poland could not live'.[97] Economically, Cambon argued, secure railway communication between East and West Prussia was acceptable for Germany as it was marginal to begin with; 90 percent of East Prussia's exports, mainly timber, travelled by sea. The two railways between Warsaw and Danzig, on the other hand, were 'absolutely essential to Poland'.[98] The conference was forced to choose between protecting 'largely imported' Germans or Poles and Cambon stated that he 'unquestionably preferred the latter alternative'.[99]

Lloyd George agreed on the need of a 'principal artery for Polish commerce', but continued to protest against the Commission's 'most dangerous proposal'.[100] In his view the Vistula and the railway adjoining on the eastern bank were the necessary transport arteries. The Danzig-Mława railway, he maintained, 'could be removed' much more easily than the 'long-settled population'.[101] Therefore, with a long-term perspective, the Allies could not depart from the principle of ethnic self-determination in this case. Drawing the border as the Commission suggested, argued Lloyd George, meant to create a territory of 'Germania Irredenta', which was the 'seed of future war' unless the allies were ready 'to go to war to maintain Polish rule'.[102]

Cambon and Stéphen Pichon, France's Minister of Foreign Affairs, reciprocated with a modified version of the security and economy argument. The district Kwidzyn, they stated, should not only be Polish because of the Danzig-Mława connection, but because whoever held the city dominated the Vistula, which was the 'main artery of commercial traffic'. Therefore, the two railway lines through Kwidzyn 'were indispensable to the economic life of Poland'.[103]

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[97]British Foreign Office, *The Paris Peace Conference 1919, vol. 3*, p. 42.
[98]Ibid.
[99]Ibid.
[100]Ibid.
[101]Ibid.
[102]Ibid., pp. 42-3.
[103]Ibid., p. 43.

The controversy between Lloyd George and the French diplomats came down to a disagreement over rigid and flexible features. Was the railway or the German population more rigid and which had a greater stabilising effect on the border? To Lloyd George the German population was more rigid than the railway, for the French politicians it was the other way around. To Lloyd George the exclusion of Germans stabilised the Polish state more than the inclusion of Kwidzyn and the railway, for the French it was the opposite. In the instance, Wilson eventually deflated the controversy by postponing a decision. The issue was returned to the Commission on Polish Affairs, so that it reconsidered its border proposition for Kwidzyn.[104]

How was the difference of opinion between Lloyd George and the French resolved? Which side did Wilson choose? Did the Big Three ultimately find the railroad to be more rigid or the people? The Commission reconsidered its border proposition, but did not change its mind. Lloyd George insisted on his point of view as well. In the end, the question whether railways or people were more rigid remained unresolved. Instead, the peace conference fixed a provisional Polish-German border in the Kwidzyn district. Fig. 2.12, p. 83, shows a detail of one of the maps that accompanied the Treaty of Versailles. The red hachure of the Kwidzyn district and other parts of East Prussia indicated areas in which the peace conference scheduled plebiscites. On 11 July 1920 a majority of the local population of Kwidzyn voted for the inclusion of the Kwidzyn district into Germany.

The map that accompanied the Treaty of Versailles reveals another characteristic of producing, circulating and modifying cognitive artefacts. The process enables actors to specify their joint agency without necessarily resolving their differences of opinion. The Big Three agreed on the exact location for most of the Polish-German border. For sections such as in fig. 2.12, p. 83, however, they agreed on a provisional border. Cognitive artefacts display traits that Martha Lampland (2010) captures in her concept of 'false numbers'.[105] Lampland shows that false numbers are 'temporary or conditional devices' that do not undermine,

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[104]British Foreign Office, *The Paris Peace Conference 1919, vol. 3*, pp. 43-4.
[105]Lampland, 'False numbers as formalizing practices'.
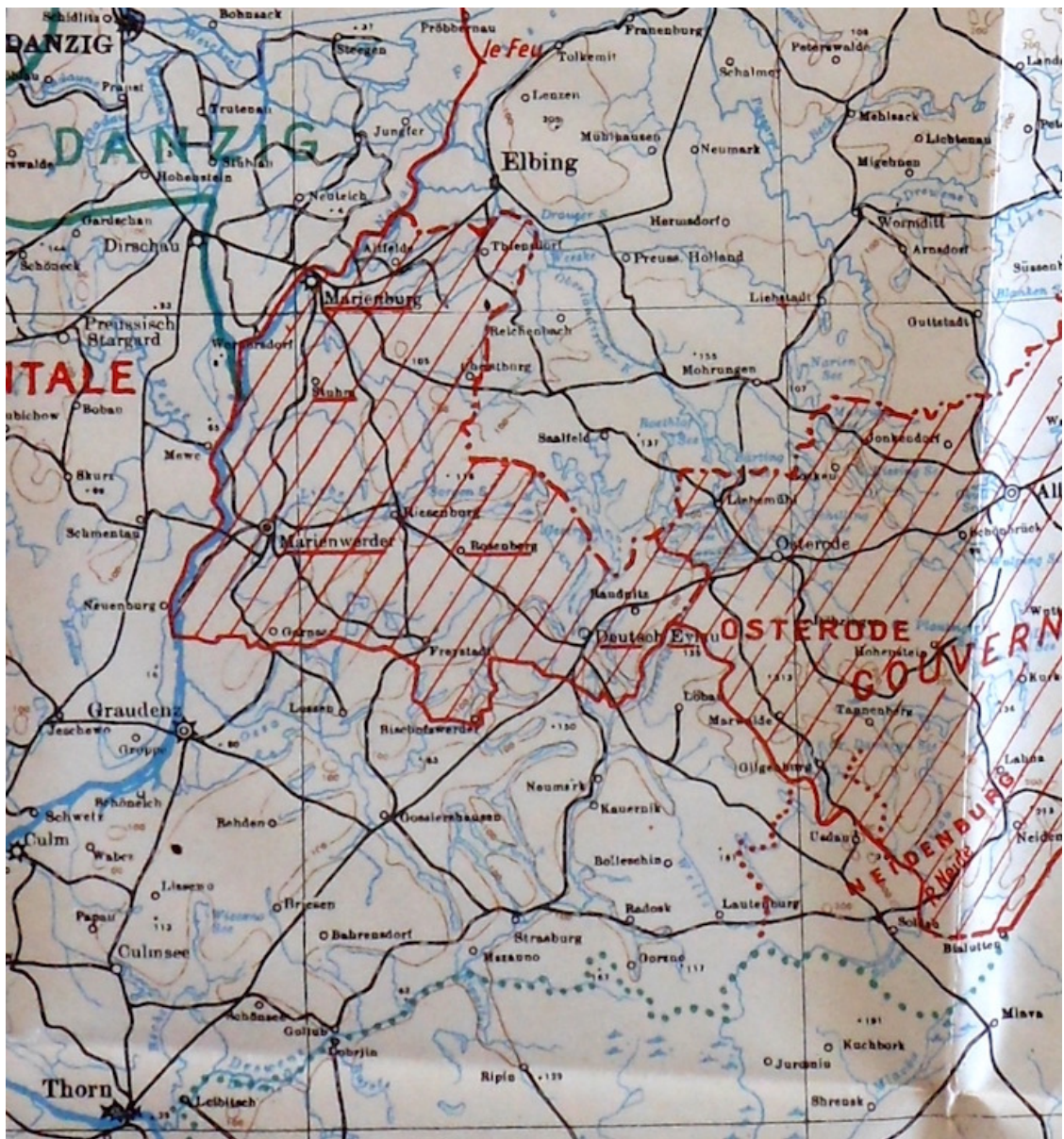
Figure 2.12: CA7, detail from one of the maps of the Versailles Treaty from 28 June 1919. The Paris Conference could not agree on a definite course of the border east and south-east of Kwidzyn, but specified that a plebiscite would be held in the area (red).
Source: ADDF, Paris Peace Conference and Sérvice Géographique de l'Armée, *294QO/72 : Frontières Occidentales de l'Allemagne*, Paris, June 1919.

but facilitate 'fixity and stability in representation'.[106] One of Lampland's examples is the use of false numbers in Stalinist Hungary to engrain the practise of accounting in rural workers.[107] For the Treaty of Versailles the Peace Conference created a map in which the Polish-German border was in parts a false line. The border was temporary and conditional where it touched on plebiscite areas. Like Lampland's false numbers, these false lines did not subvert, but enabled the 'fixity and stability' of the border. First, they allowed Wilson, Lloyd George and Clemenceau to fix the border in all those places where they had no disagreements. Second, the false lines acted as placeholders until plebiscites would determine the final border.

2.5 Analytical conclusions: Themes from the case

Between 1918 and June 1919 Dmowski, Wilson, Lloyd George and Clemenceau delimited, specified and used their scope of agency in determining Poland's borders. They did so by producing, circulating, rejecting and modifying cognitive artefacts in an iterative process. Through this process the actors established a shared way of reasoning about the location of the Polish border. This reasoning was synthetic and did not follow one single principle. It consisted of ideational elements like the self-determination of ethnicities. It also contained rationalist elements like the distinct identification of individuals with one ethnicity and the quantification of these individuals.

Dmowski, Wilson, Clemenceau and Lloyd George developed a shared reasoning. They did not, however, have or develop shared views of the Polish border question. For example, there was no shared understanding that self-determination was a moral imperative. Neither did Dmowski and the Big Three end up with a formula or measure for the border. The shared reasoning of our actors was loose enough for them to pursue their own objectives. At the same time it was specific enough to yield a considerable range of concrete diplomatic results.

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[106]Lampland, 'False numbers as formalizing practices', p. 377.
[107]Ibid., pp. 387-94.

The case has shown that cognitive artefacts are not multi-way translations like boundary objects. First, actors reject and change cognitive artefacts. Cognitive artefacts do not mediate between the positions of actors, they sharpen their positions and grind out potential overlap. Second, different types of cognitive artefacts, even if they are produced by the same actor, provide different accounts of the same issue. A map has different rigid and flexible features than a statistical table. That is, cognitive artefacts change rather than translate an issue. These are two important differences between cognitive artefacts and the boundary objects of Star and Griesemer.

Cognitive artefacts are a way for actors to explore and develop their agency. Individual actors identify the limits of their agency through the iterative process in which their negotiation partners accept, reject or modify cognitive artefacts. Actors collectively figure out the limits of their joint agency through these iterations, too, and they develop the internal structure of agency. In the iterative process actors close in on a shared order of features and become increasingly sophisticated at differentiating their flexibility, rigidity and stability. One possible outcome of this refinement is that actors produce artefacts with false features in Lampland's sense. These false features do not subvert, but enable stability of representation and of the diplomatic process.

It is tempting to extend Bowman's dictum of the 'map language' to an *artefact language*.[108] Cognitive artefacts are linked up to a network of reasoning, communicating and arguing. Maps can visualise quantitative aspects, statistics can quantify spatial aspects. Actors can hardly appreciate different cognitive artefacts in isolation and without the verbal statements in which they are embedded. The term of an artefact language is risky though. It might lead us to discounting unduly their non-linguistic characteristics. We have argued that verbal statements are not cognitive artefacts because the latter are much more decided. Subsuming maps and statistics under an artefacts language bears the risk of obliterating that distinction. Moreover, cognitive artefacts have elements that are non-verbal and non-textual, e.g., the geographic space of a map or the logical dimensions of a table.

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[108]Cited in: Smith, *American Empire*, p. 147.

3 Poland's borders after World War II

Contents

3.1 Introduction

Poland shifted westward through the Second World War, roughly losing a third of her territory in the east to the Soviet Union and gaining a third in the west from Germany, see figs. 3.1a & 3.1b, p. 88. The main actors that determined Poland's borders were the political leaders of the US, the Soviet Union and Great Britain, Franklin D. Roosevelt, Joseph Stalin and Winston Churchill. The three heads of

state were joined in the so-called Grand Alliance that fought World War II against Germany.[1] Roosevelt, Stalin and Churchill determined borders not after, but during the war. Poland's borders were settled by mid-1945.

The diplomacy surrounding Poland's borders was driven by two factors. First, the common aim to defeat Germany. Second, the actors' diverging objectives for postwar Europe. Roosevelt, Stalin and Churchill relegated the Polish government to a dummy that was only included where it served their interests. The diplomatic process between the members of the Grand Alliance lasted from December 1943 to June 1945 and was underpinned by their military activities.

This chapter examines seven cognitive artefacts from 1943 to 1945 that the actors used to determine Poland's post-1945 border, see table 3.1, p. 87. With these artefacts the actors developed their joint agency, based on shared war aims and diverging postwar aims. The first two artefacts circulated within the US administration, the remaining five circulated within the Grand Alliance. It will be argued that the United States, the Soviet Union and Great Britain coordinated successfully on Poland's borders through the production, circulation and modification of these artefacts.

Table 3.1: Artefacts of Poland's post-1945 borders

No.	Date	Actor[1]	Description
1	12.1.1943	PL/US	Ethnicity statistics east of Soviet-German line
2	22.1.1943	US	Map of possible Polish-Soviet boundaries
3	1942/43	US/SU (St)	Map of Polish-Soviet frontier
4	Sep. 1944	US (Rv)	Map of proposed division of Germany
5	Sep. 1944	US (Mt)	Map of proposed division of Germany
6	Sep. 1944	EAC	Map of occupation zones in Germany
7	1945	US	Data map of German-Polish frontier

[1] Denominates the political actor, fraction or entity from which the artefact originated: PL=Poland; US=United States; St=Joseph Stalin, Soviet Union; Rv=Franklin D. Roosevelt, US President; Mt=Henry Morgenthau, Secretary of the Treasury, US; EAC=European Advisory Commission (interallied body of US, UK & SU).

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[1]Winston Churchill coined the term 'Grand Alliance' and later popularised it through his personal account of the war; Winston Churchill, *The Second World War*, vol. 1-6 (London: Houghton Mifflin, 1948).

(a) Poland in 1937

(b) Poland after 1945

Figure 3.1: Poland's borders before and after World War II.
Source: Richard C. Lukas, *The Strange Allies : The United States and Poland, 1941-45* (Knoxville, TN: The University of Tennessee Press, 1978), pp. 6 & 133.

3.2 Literature review

3.2.1 Historical literature

Roosevelt, Stalin and Churchill shared the principal war aim to defeat Germany. This was an existential matter for Britain and the Soviet Union; for the US, Germany was a threat to the aspired liberal world order.[2] Hence the three countries joined in the Grand Alliance after Japan's attack on Pearl Harbour on 7 December 1941.[3] In the postwar world the US wanted to expand economically into Western Europe.[4] The Soviet Union sought to control Central and Eastern Europe, to prevent future challenges in her west by Germany.[5] Britain wanted a European balance of power that restrained Germany and an economic integration, mainly of Western Europe, under her leadership.[6] The postwar objectives of the US and Britain on one side and the Soviet Union on the other were thereby directed at largely disjunct geographic areas, which intersected somewhere in prewar Poland or Germany.

American, British and Soviet border politicking is predominantly seen to be driven by geopolitical aspirations and utter disregard for Polish concerns. There is little need to probe Stalin's actions for pro-Polish intentions, considering the Red Army's move westwards during World War II and the inclusion of Poland into the communist bloc. Regarding the attitudes of Roosevelt and Churchill, Jan Karski (1985) argues that they were familiar with Stalin's westward expansion and tolerated it until mid-1945.[7] Robert Szymczak (1999) maintains that the US preserved good Soviet-American relations at virtually any cost, including the

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[2]Herbert Feis, *Churchill, Roosevelt, Stalin: The War They Waged and the Peace They Sought*, 2nd ed. (Princeton, NJ: Princeton University Press, 1967), pp. 3-6.

[3]Michael Howard, 'Grand Alliance', in *The Oxford Companion to World War II*, ed. I. C. B. Dear and M. R. D. Foot (Oxford University Press, 2001).

[4]Nicolas Lewkowicz, *The German Question and the International Order, 1943-48*, Global Conflict and Security since 1945 (Basingstoke: Palgrave Macmillan, 2010), pp. 49-67.

[5]Ibid., pp. 68-78.

[6]Talbot Imlay, 'Western Allied ideology, 1939 - 1945', chap. 2 in *The Cambridge History of the Second World War*, ed. Richard J. B. Bosworth and Joseph A. Maiolo, vol. 2 (Cambridge: Cambridge University Press, 2015), 43–67.

[7]Jan Karski, *The Great Powers & Poland, 1919-1945: From Versailles to Yalta* (Lanham, MD: University Press of America, 1985), pp. 451, 619.

Soviet massacre of Polish officers in Katyn in 1943.[8] Mieczysław Biskupski (2002) studies the role of Hollywood's film industry in shaping public perception of Poland; he concludes that the administration found a perfect ally in the movie industry in disregarding 'Poland as a reactionary obstacle to Soviet-American cooperation'.[9] P. M. H. Bell (1989) makes the same point for British policy towards Poland and Katyn and emphasises the role public propaganda played.[10] Anna M. Cienciala (2009) argues that ignoring Polish sovereignty was part of Roosevelt's policy towards the Soviets.[11] To Anita J. Prażmowska (1995), Poland is the ally that Britain betrayed.[12]

3.2.2 Literature on artefacts

The cognitive artefacts of border diplomacy during World War II have received comparably less attention than those of the Paris Conference in 1919. The reason is, I presume, that ongoing military activity tends to overshadow concurrent political reasoning and coordination. The disproportionate attention that is given to military maps supports this assumption.[13]

Harley A. Notter (1975) has published a number of US foreign policy documents on Poland from the early 1940s.[14] These documents contain two cognitive artefacts, a statistical table and a map, that will be discussed, amongst others, in

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[8]Robert Szymczak, 'Uneasy Observers: The OSS Foreign Nationalities Branch and Perceptions of Polish Nationalism in the United States during World War II', *Polish American Studies* 56, no. 1 (1999): 7–73.

[9]Mieczysław B. Biskupski, 'Hollywood and Poland, 1939-1945: The American Cinema and Poles during World War II', *The Polish Review* 47, no. 2 (2002): p. 210.

[10]P. M. H. Bell, 'Censorship, Propaganda and Public Opinion: The Case of the Katyn Graves, 1943', *Transactions of the Royal Historical Society* 39 (1989): 63–83.

[11]Anna M. Cienciala, 'The United States and Poland in World War II', *The Polish Review* 54, no. 2 (2009): 173–194.

[12]Anita J. Prażmowska, *Britain and Poland, 1939-1943: The betrayed ally*, Cambridge Russian, Soviet and Post-Soviet Studies (Cambridge: Cambridge University Press, 1995).

[13]A selection of publications is: Jasper Henry Stembridge, *The Oxford War Atlas* (London: Oxford University Press, 1945); John Keegan, *Collins Atlas of World War II* (New York, NY: Harper Perennial, 2006); Alexander Swanston and Malcolm Swanston, *The Historical Atlas of World War II* (London: Cartographica, 207).

[14]Harley A. Notter, *Postwar Foreign Policy Preparation, 1939-1945*, General Foreign Policy Series 15 (Westport, CT: Greenwood Press, 1975).

this chapter. Notter treats these cognitive artefacts as outcomes of quasi-scientific information gathering, providing the factual background on which Roosevelt based his policies. This chapter will challenge Notter's position. In light of the results that the previous chapter has yielded, it seems unlikely that cognitive artefacts provide facts on which to base agency.

Other scholars that have circled in on the question of cognitive artefacts include Neil Gregor (2008).[15] He builds on Churchill's known fascination with physical maps and tries to get at the mental maps of Britain's political leader during the war. Steven Casey (2008) conducts a similar analysis for Roosevelt.[16] Alan G. Henrikson (1980) argues in general terms that geographic intuition and imagination are vital, but chronically underdeveloped skills in foreign policy making.[17] Werner Abelshauser (2004) has edited a primary source that would lend itself to an analysis of Nazi Germany's agency during the war: *Göring's Atlas* was a collection of maps that visualised resource deposits and industrial facilities across Europe.[18] The atlas was put together in spring 1944, to give Hitler's 'armament's dictator' an overview over the continent's resource potential for warfare. Abelshauser remarks that the atlas had a predominantly representative function for Göring. The task of armaments planning had already passed to Albert Speer when the atlas was produced. The type of resource maps it contained though, played an important part in military planning.[19]

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[15]Neil Gregor, 'The Maps on Churchill's Mind', chap. 11 in *Mental Maps in the Era of Two World Wars*, ed. Steven Casey and Jonathan Wright (Basingstoke: Palgrave Macmillan, 2008), 203–215.

[16]Steven Casey, 'Franklin D. Roosevelt', chap. 12 in *Mental Maps in the Era of Two World Wars*, ed. Steven Casey and Jonathan Wright (Basingstoke: Palgrave Macmillan, 2008), 216–239.

[17]Alan K. Henrikson, 'The Geographical "Mental Maps" of American Foreign Policy Makers', *International Political Science Review* 1, no. 4 (1980): 495–530.

[18]Werner Abelshauser, ed., *Göring's Atlas. Das Handwerkszeug des Rüstungsdiktators. Geheimes Kartenmaterial aus dem Büro des Beauftragten für den Vierjahresplan Reichsmarschall Hermann Göring* (Braunschweig: Archiv Verlag, 2004).

[19]Ibid., introduction.

3.3 US policy and borders

Regarding borders in Central Europe, Roosevelt had to take account of America's war and postwar aims. The latter were more comprehensive than economic expansion into Western Europe. The US sought to embed economic liberalism in a postwar international order that was safeguarded by a collective security system, not empires. When Japan bombarded Pearl Harbor on 7 December 1941, the dominant belief of the American public became that there was no American security without an active and ongoing military involvement. US foreign policy had been heterogeneous in the preceding two decades and variantly followed two competing strands, the isolationist and the internationalist. Pearl Harbor tipped the balance in favour of internationalism.[20] While World War I was perceived as the war to end all wars, World War II became the first step to a continuous military presence on the international stage.

This section discusses two cognitive artefacts that Notter published along with US foreign policy documents. They did not circulate to Stalin and Churchill, which gives us an opportunity to explore the role that cognitive artefacts have outside of a negotiation setting. Given the broad parameters of America's position, how did Roosevelt and his administration develop a concrete stance on Poland's borders?

3.3.1 Poland as room for manoeuvre

Roosevelt's State Department created the Advisory Committee on Post-War Foreign Policy, when the US entered the war. The Committee studied global problems that were of concern to the United States.[21] One of the Committee's tributaries was the US Subcommittee on Territorial Problems. It was active from March 1942 to December 1943 and dealt with the global scale of territorial issues. Beginning with the Near East and Eastern Europe, it eventually produced

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[20]Michael J. Nojeim and David P. Kilroy, *Days of Decision: Turning Points in U.S. Foreign Policy* (Dulles, VA: Potomac Books, 2011), pp. 39-55.

[21]Notter, *Postwar Foreign Policy Preparation, 1939-1945*, p. 69.

materials for all European countries and the rest of the world.[22] The Territorial Subcommittee's mandate was explicitly not to provide border recommendations, but to explore issues, to consider eventualities and to develop scenarios. The underlying rationale, Notter argues, was that the 'exact nature of postwar political problems' could not be known and that recommendations were therefore simply impossible.[23]

When the US Territorial Subcommittee started its work, in March 1942, Roosevelt told the Soviet ambassador that he would not object if the Soviet Union regained her frontier of September 1941. Roosevelt referred to the Molotov-von Ribbentrop line that the Soviet and German armies had established when they attacked Poland in 1939.[24] At that time the front line between the German and the Russian Army was approximately 400 kilometres east of the Molotov-von Ribbentrop line in the northern section and 800 kilometres or more in the central and southern sections, see fig. 3.2, p. 94. The Red Army was engaged in the Battle of Moscow, which would become the first strategically significant defeat of Nazi Germany.

The front was more or less in the same place in January 1943, after the Red Army had reversed German gains of summer 1942 in the south-east. In January 1943 the US Territorial Subcommittee produced a paper on the ethnic composition of the population in Poland, east of the Molotov-von Ribbentrop line. The paper began with a statistical table that set out overall ethnicity statistics, see fig. 3.3, p. 95.[25] The US Territorial Subcommittee distinguished three zones of 'ethnic settlement', Polish-White Russian in the north, a 'local' population in the centre and Polish-Ukrainian in the south. With respect to ethnic separation, the Subcommittee stated that the Soviet-German line of 28 September 1939 left 'many Poles to the Soviet Union', but alternative lines would leave 'almost as many Ukrainians in Poland'.[26]

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[22]Notter, *Postwar Foreign Policy Preparation, 1939-1945*, pp. 118, 120.
[23]Ibid., pp. 121-2.
[24]Lewkowicz, *The German Question and the International Order, 1943-48*, p. 77.
[25]The paper is reproduced in: Notter, *Postwar Foreign Policy Preparation, 1939-1945*, p. 492.
[26]Ibid., pp. 492-5.
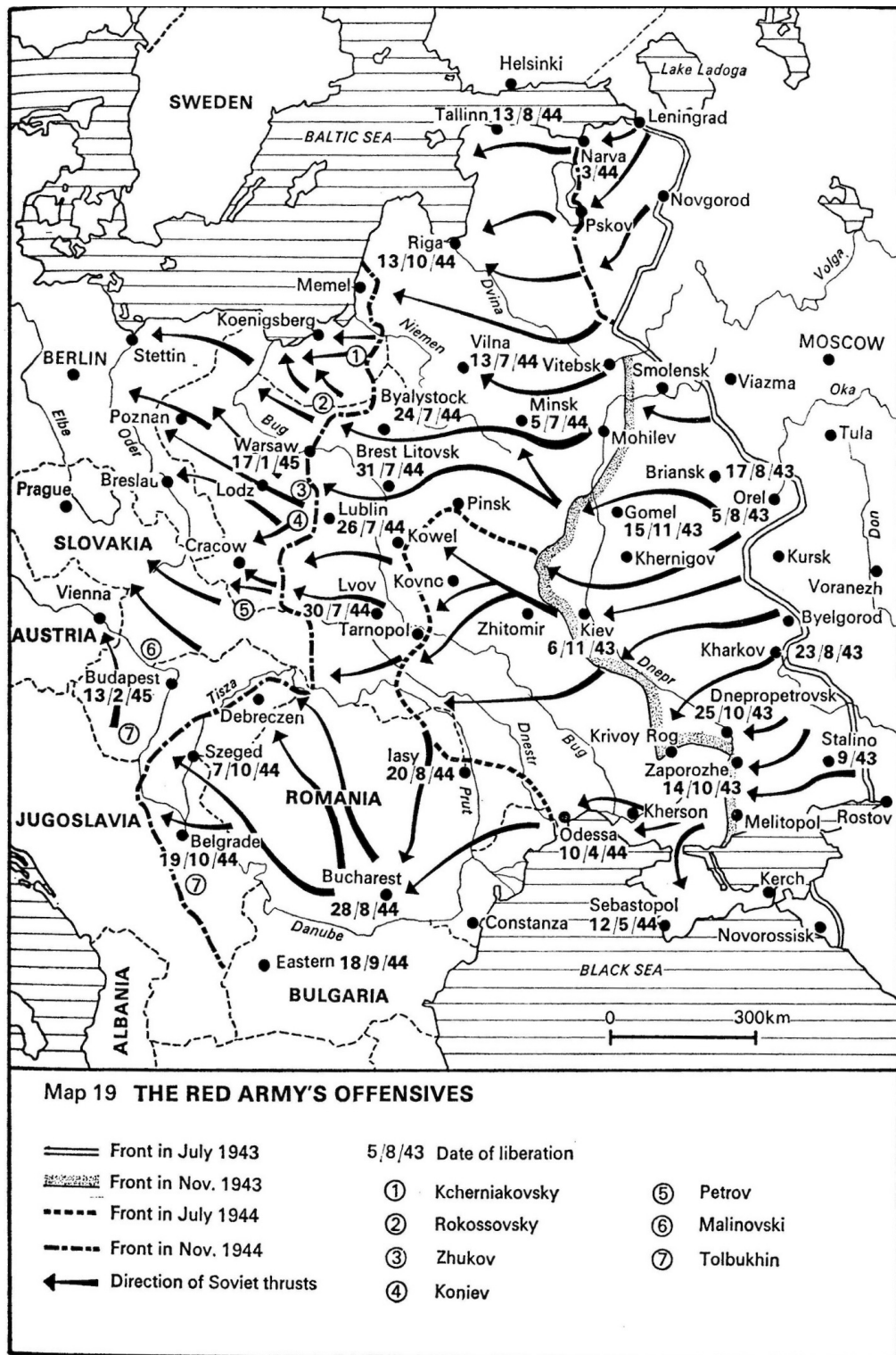
Figure 3.2: Advances of the Red Army between 1943 and 1945.
Source: Henri Michel, *The Second World War* (London: Deutsch, 1975), p. 557.

	Number	Percent		Number	Percent
Poles _____	4,733,046	39.9	Russians _____	119,269	1.0
Ukrainians _____	4,055,365	34.2	Lithuanians _____	75,949	0.6
White Russians ____	986,605	8.3	Germans _____	83,850	0.7
"Local" (Ukrainians and White Russians) _____	707,088	6.0	Jews _____	1,036,576	8.7
			Czechs _____	31,000	0.3

Figure 3.3: CA 1, US statistics from January 1943 on the ethnic composition in Poland, east of the Soviet-German partitioning line of 28 September 1939. The table was based on language data of the Polish Census of 1931.
Source: Harley A. Notter, *Postwar Foreign Policy Preparation, 1939-1945*, General Foreign Policy Series 15 (Westport, CT: Greenwood Press, 1975), pp. 492-5.

In closing, the Subcommittee evaluated its data source. Despite being the 'best available data', the US Territorial Subcommittee argued, the Polish Census of 1931 was of limited use. Census takers had maximised the number of Polish speakers and minimised the number of non-Polish speakers for political reasons. This was evident to the Subcommittee in the language category 'local'. It captured individuals who were 'White Russian and Ukrainian in language, religion and customs', but who had 'no degree of White Russian or Ukrainian national or political consciousness'.[27] The US Subcommittee argued as well, that the ethnic makeup in eastern Poland had undergone 'drastic changes' since 1931. Through the Soviet occupation and the ensuing Soviet-German war the 'Polish element has been much reduced' by voluntary or forced migration; Germany exterminated 'a great part of the Jewish population' and transferred 'forced labor' to other areas under her domination. The US Territorial Subcommittee thus concluded that the 'actual situation upon the cessation of hostilities can be determined only by detailed investigation on the ground'.[28]

The Polish Census of 1931 used mother tongue as proxy for ethnicity. The census of 1921 had asked individuals for their nationality. Census takers were instructed that, if there was no obvious mother tongue, that language should be recorded to which the person felt closest. Furthermore, Ukrainian, Belorussian etc and dialects thereof should be treated as different languages, in spite of their close

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[27]Notter, *Postwar Foreign Policy Preparation, 1939-1945*, pp. 493.
[28]Ibid., pp. 493, 495.

proximity.[29] In Rogers Brubaker's terminology (1996) Poland's 1931 census was part of a wider effort at 'nationalisation'.[30] By asking for people's mother tongue, rather than their nationality, the Polish element in the statistics should be strengthened. It was an attempt to include those who spoke Polish, but who did not see themselves as Poles. This applied above all to the Jewish community.[31] Creating the language category 'local' was a way of downplaying the non-Polish element. It made the non-Polish population appear more fragmented and reduced the absolute number of those who spoke White Russian and Ukrainian.

States are 'nationalising', according to Brubaker, if they are 'conceived by their dominant elites as nation-states' that are somehow incomplete, unrealised or otherwise 'insufficiently national'. This incompleteness, in turn, requires and justifies policies aimed at making the nation-state more complete. Brubaker broadly distinguishes two kinds of strategies at nationalisation. They are either aimed at strengthening the national element or at downplaying the non-national element.[32] Both were employed in interwar Poland and the outcome was the detailed enumeration of languages and the opaque category 'local'. The circumstances under which nationalisation strategies are successful is an open question. Celia Heller (1984) argues that the Jewish community in interwar Poland was on its way to abandon traditional dress and adopt Polish as *lingua franca*. In Heller's opinion it was the emotional backlash to systematic

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[29]Census and census manual were printed in Polish and French, page numbers refer to French pages: *Drugi powszechny spis ludności z dnia 9.12 1931 roku - Formularze i instrukcje spisowe : Deuxième recensement général de la population du 9.12 1931 - Formulaires et instructions*, vol. 1, Statystika Polski : Statistique de la Pologne (Warsaw: Główny Urząd Statystyczny Rzeczypospolitej Polskiej : L'office central de statistique de la République Polonaise, 1932), pp. 126-8.

[30]Rogers Brubaker, *Nationalism reframed : Nationhood and the national question in the New Europe* (Cambridge: Cambridge University Press, 1996). On the question why nation states typically build ethnolinguistic, rather than ethnoreligious identities see: Dominique Arel, 'Language categories in censuses: backward- or forward-looking?', chap. 4 in *Census and Identity: The Politics of Race, Ethnicity and Language in National Censuses*, ed. Dominique Arel and David I. Kerzer (Cambridge: Cambridge University Press, 2002), 92–120.

[31]The notion of a distinctly Jewish national identity, Zionism, existed at the time. Poland's Jews, however, did not necessarily identify themselves as such. There was a range of sentiments and self-identifications that did not necessarily fit the mould of national identities, see Celia S. Heller, *On the Edge of Destruction: Jews of Poland between the Two World Wars*, 2nd ed. (Detroit, MI: Wayne State University Press, 1994).

[32]Brubaker, *Nationalism Reframed*, p. 79.

discrimination that triggered 87 percent of Jews to state a different language than Polish as their mother tongue in the census of 1931.[33]

The US Territorial Subcommittee remade Polish ethnicity statistics into a numerical artefact with flexible features. Originally, to the Polish Census takers in 1931, language categories, numbers and locations of people had been rigid. They were flexible to the US Subcommittee, due to Poland's nationalisation strategies during the interwar years and the displacement of people during the war. The Subcommittee established these flexible features in January 1943, while dealing with territory that Roosevelt had offered to the Soviet Union in March 1942. Roosevelt's decision preceded the cognitive artefacts of the US Subcommittee. This calls Notter's position into question. Roosevelt's political agency was not evidence-based if the evidence was gathered after the fact. Furthermore, it appears that 'uncertainty over postwar problems' is a euphemistic description of the real reasons for American abstinence from border recommendations. Roosevelt's proposition to the Soviet Union tells us that flexible borders were a bargaining chip. With its numerical artefact the US Subcommittee reframed America's territorial non-commitment as uncertainty. This validated the way in which Roosevelt fostered the military alliance with the Soviet Union and drew the Red Army westwards in the fight against Germany.

What does this tell us about the relationship between cognitive artefacts and political agency? Cognitive artefacts do not necessarily provide an *ex ante* factual basis for political agency. Rather, the need for political actors to validate their agency triggers the production of cognitive artefacts. If this is an important function of cognitive artefacts, we should be able to observe it more widely. For example, are there instances in which the circulation or travels of cognitive artefacts validates agency? Is there a space for cognitive artefacts with false features to validate agency?

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[33]79 percent of Jews stated Yiddish as mother tongue, 8 percent Hebrew. Heller, *On the Edge of Destruction*, pp. 67-8.

3.3.2 The ethnic geography of Eastern Poland

The US Territorial Subcommittee produced a map of Poland's eastern boundaries, too, see fig. 3.4, p. 99.[34] It shows the geographic range and structure of Roosevelt's scope of agency in eastern Poland. A location map, inset in the legend, showed Poland and her neighbours in their prewar borders, see fig. 3.5, p. 100. Poland's west was coloured in light green. The east, where the main frame of the map discussed Poland's 'alternative boundaries', was coloured in dark green. Roosevelt's room of manoeuvre to agree with Stalin on the Polish-Soviet frontier was the eastern half of Poland.

The legend indicated alternative Polish-Soviet boundaries, too, see fig. 3.6a, p. 101. Line A, the first line, was the Molotov-von Ribbentrop line that Germany and the Soviet Union established through their occupation in 1939. It was the westernmost line and the least favourable to Poland. The categories of the Polish 1931 census were given in the legend, too, see fig. 3.6b, p. 101. Unlike Bowman in his map of 1918, the categories and the colour-coding of the US Territorial Subcommittee did not favour the presence of Poles over other ethnicities, it rather conveyed a sense of ethnic fragmentation.

The map showed the coastline of the Baltic Sea, political boundaries of states (black lines), provinces (dashed) and districts (grey), eight cities and the distribution of language data in pie charts, see fig. 3.7, p. 102.[35] The size of a pie indicated absolute population numbers per district, slices represented the share of certain language groups. The pie charts made it possible to display a large number of language categories for many territorial units. They allowed for a nuanced presentation of the data. Like the legend on mother tongue, the Subcommittee's presentation of data in pie charts emphasised the ethnic fragmentation of the area. Moreover, the pie charts visually hovered over the territory in the map. This anticipated the approach of 'population transfers' that Roosevelt, Churchill and Stalin adopted later in order to reconcile the political

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[34]Reproduced as appendix 19 in: Notter, *Postwar Foreign Policy Preparation, 1939-1945*, facing p. 512.

[35]The cities are, from west to east: Warsaw, Lublin, Białystock, Lwów, Vilnius/Wilno, Nowogródek, Pinsk, Lutsk/Luck.
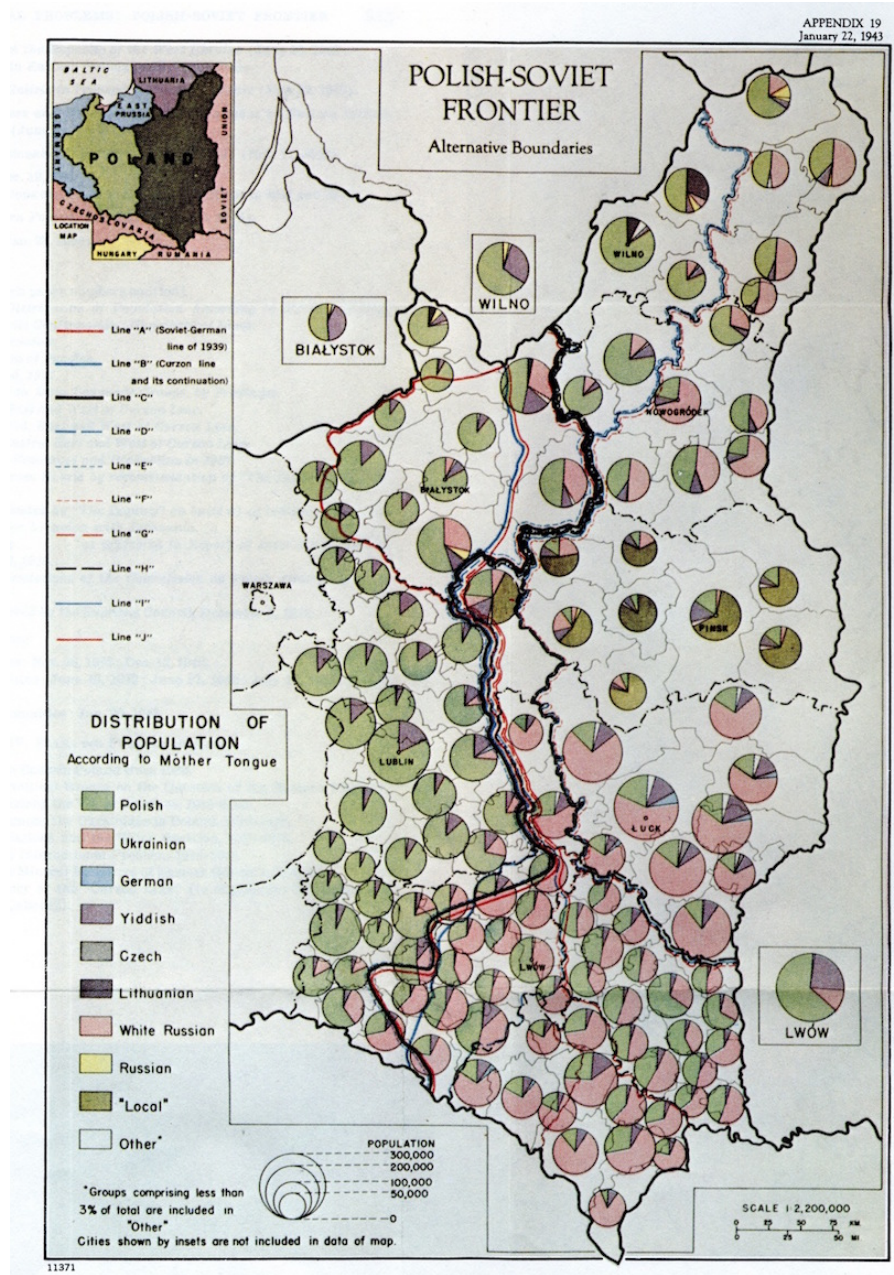
Figure 3.4: CA2, map of alternative Polish-Soviet boundaries by the US Territorial Subcommittee from 22 January 1943. The map visualises the language data of the Polish census of 1931. It proposes ten alternative boundaries that correspond loosely with ethnic composition.
Source: Harley A. Notter, *Postwar Foreign Policy Preparation, 1939-1945*, General Foreign Policy Series 15 (Westport, CT: Greenwood Press, 1975), p. 512.
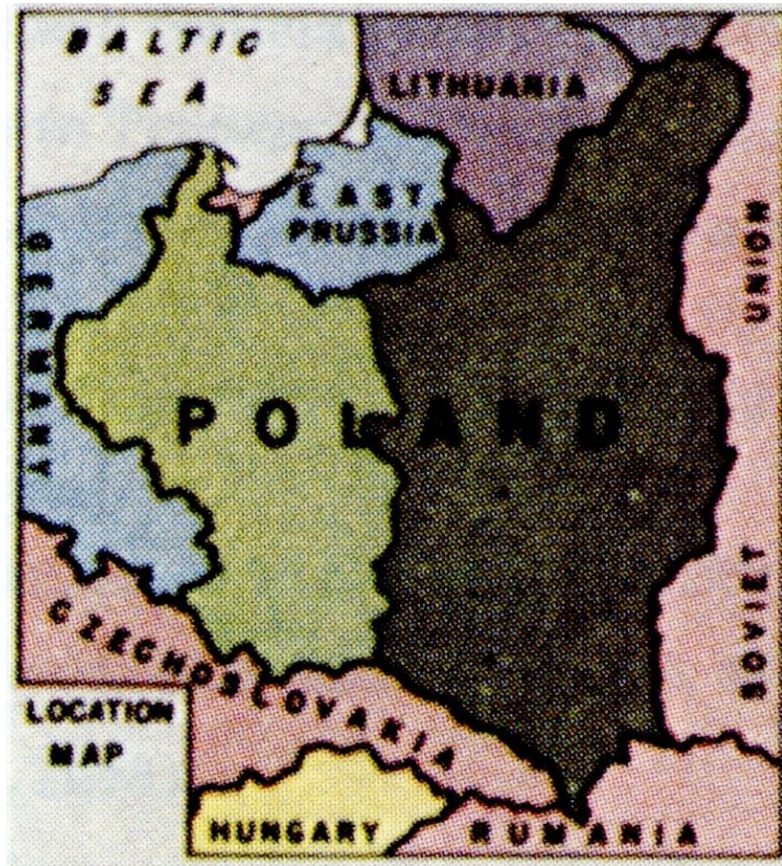
Figure 3.5: Detail of fig. 3.4. The 'Location map' shows that the US regarded the eastern half of Poland as political room for manoeuvre towards the Soviet Union.

(a) Alternative frontiers

(b) Language categories
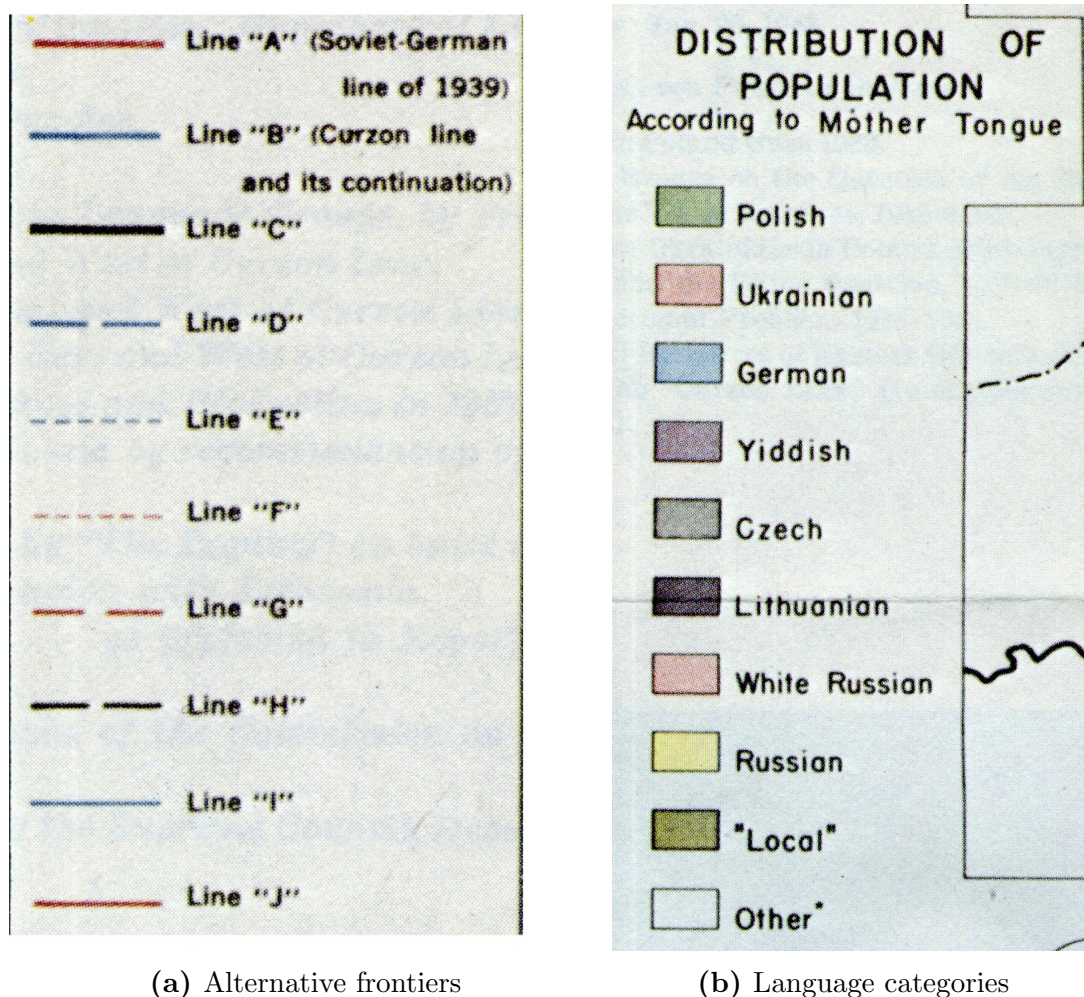
Figure 3.6: Details of fig. 3.4. Unlike Bowman in his map of 1918, fig. 2.4, p. 54, the US Territorial Subcommittee did not favour the cause of the Polish state and constructed this map accordingly. The Soviet-German line of 1939, Line A, was the foremost of alternative frontiers. The visualisation of ten language categories gave the impression of ethnic fragmentation rather than Polish predominance.

borders they were drawing with the location of ethnicities. Ethnicities that found themselves outside of the borders of their nation state would be transferred into those borders. This was a visual, conceptual and practical separation of ethnicities from territory that was not made during border negotiations after World War I.
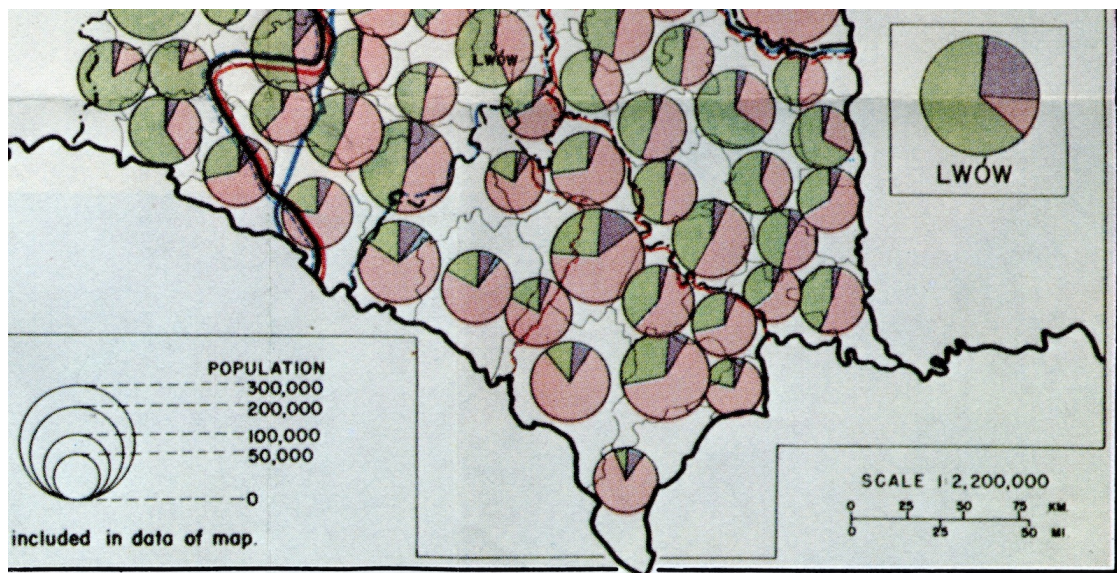
Figure 3.7: Detail of fig. 3.4. Pie charts allowed the detailed presentation of language data. This heightened the impression of ethnic fragmentation. The floating pie charts are a visual, conceptual and political separation of ethnicity and territory. This anticipated the policy of population transfers on which the Grand Alliance agreed later.

The two dominant features of Roosevelt's map of eastern Poland were ethnicity and the numerous possibilities for the Polish-Soviet border. The fragmentation of ethnicity, its separation from territory and the treatment of the Polish 1931 Census clearly show that ethnicity was a flexible feature, unlike after World War I. Ethnicity made none of the political boundaries evidently more stable than any other. Alternative boundaries might have corresponded broadly with the language data in the middle and southern zones, where the lines bundled. Line A, however, swung far into the west through territory that was predominantly Polish. The US Territorial Subcommittee did not propose a reasoning based on rigid features in its map. Instead, the Subcommittee translated Roosevelt's

concern for political room for manoeuvre with the Soviet Union into a map with flexible features. Roosevelt's negotiation space was Central Poland, delimited by the north-south running provincial borders and the Polish-Soviet interwar frontier. The space was structured by province and district borders, major cities and an unknown, mixed and mobile population. When Roosevelt would negotiate with Stalin he would not have to take into account transportation infrastructure, resources, industry or Polish territorial integrity. The cognitive artefacts of the US Territorial Subcommittee gave Roosevelt the broad scope of agency he needed to pursue America's war aims, postwar aims and her 'friendly' internationalism at the same time.

By March 1943 Roosevelt was familiar with Stalin's position on Poland's frontier. In the east Stalin would demand the Molotov-von Ribbentrop line (line A in fig. 3.4, p. 99), but might settle for the slightly easterly Curzon line (line B in fig. 3.4). Germany should lose Upper Silesia and East Prussia in the west.[36] At that time the Red Army was still about 400 kilometres east of the Molotov-von Ribbentrop line and had retaken Kiev a few weeks earlier, see fig. 3.2, p. 94.

Stalin's view on borders allowed the US Territorial Subcommittee to specify further the American approach in a paper from the end of March 1943, see table 3.2, p. 104.[37] The Subcommittee thought that national strategic implications and aspects of European security were most important. Ethnicity came second, economic advantages and disadvantages third, communication and transportation fourth.

After laying out its general approach, the US Subcommittee discussed the Polish-Soviet borders it had proposed two months earlier in fig. 3.4, p. 99. The Subcommittee reasoned that the territory between the Molotov-von Ribbentrop line, line A, and the 'former Polish-Soviet frontier provided a cushion for absorbing the German attack in 1941', which in turn had been a 'crucial factor' in defending Leningrad and Moscow the same year. Line A was also suitable for development into a strong defensive frontier. Hence the Subcommittee concluded

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[36]Feis, *Churchill, Roosevelt, Stalin*, pp. 119-23.

[37]The paper 'Polish-Soviet Frontier: Alternative Boundaries' from 26 March 1943 is reproduced as appendix 17 in: Notter, *Postwar Foreign Policy Preparation, 1939-1945*, pp. 496-509.

Table 3.2: Stated principles of border considerations by the US Territorial Subcommittee, 1943[1]

No.	1943
1	'Strategic implications for the two states and European security'
2	Ethnic separation
3	Economic (dis-) advantages
4	Communications and transportation

[1] *Source:* US Territorial Subcommittee. 'Polish-Soviet Frontier: Alternative Boundaries'. 26 March 1943, p. 1, reproduced in: Harley A. Notter, *Postwar Foreign Policy Preparation, 1939-1945*, General Foreign Policy Series 15 (Westport, CT: Greenwood Press, 1975), pp. 496-512.

that the Soviet Union would prefer Line A over all other lines, if she wanted to 'play an active role in Central Europe'. The Subcommittee's assessment for Poland was bleak. She would be 'in a difficult military position, no matter where the boundary is drawn [...] and depend for security upon allies among the Great Powers or upon a collective security system'.[38] Poland would not be able to protect herself because her military capacity was no match for the powers that surrounded her.

The US Subcommittee reframed Stalin's specific territorial demands into a general approach towards borders. It verbally specified the rather empty and flexible geography of its January map by including strategic aspects. The Subcommittee then applied this feature to evaluate and narrow down the border options it had previously developed. This reduced the options for the Polish-Soviet frontier that Roosevelt had to consider in negotiations with Stalin. The US Territorial Subcommittee specified Roosevelt's scope of agency by including Stalin's strategic concerns.

The cognitive artefacts of the US Territorial Subcommittee validated Roosevelt's agency on Poland's borders, both retrospectively and forward-looking. Moreover, these artefacts specified Roosevelt's agency without circulating to Stalin and being rejected by him. Hence the iterative production and modification of

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[38]Notter, *Postwar Foreign Policy Preparation, 1939-1945*, p. 498.

cognitive artefacts outside of a negotiation setting is a way for a single party to specify its agency.

3.4 At the conferences of the Grand Alliance

During their joint war against Germany, the US, Britain and the Soviet Union coordinated on a broad range of issues. Roosevelt, Churchill and Stalin met in person on three occasions between 1943 and 1945, in Tehran, Yalta and Potsdam. After Tehran and before Yalta a meeting of the three heads of state was scheduled to take place in Quebec, but Stalin cancelled at short notice. The most important aspects of interallied cooperation, amongst them Poland's post-1945 borders, were discussed and settled at these meetings.

3.4.1 Tehran

Roosevelt, Stalin and Churchill explicitly discussed Poland's borders for the first time in Tehran in winter 1943. Roosevelt had just met Churchill and China's Chiang Kai-shek in Cairo. Stalin turned down an invitation to Cairo and a number of other places on the Mediterranean and in the Middle East. A meeting of Chiang Kai-shek with Stalin was diplomatically difficult, because China fought Japan with whom the Soviet Union had a neutrality agreement. Furthermore, Stalin was suspicious of meeting places that the UK or the US controlled, but he agreed to a meeting in Tehran.

At Tehran, Stalin made the opening move on Poland's borders by mentioning that the 'Soviet Union favoured the Polish western frontier on the Oder'. Churchill and his Foreign Secretary Anthony Eden replied that they had 'no personal attachment to any specific frontier'. Churchill and Eden encouraged Stalin to speak out by declaring that Soviet security in the west was a 'governing factor'. Churchill said that 'he would like to see Poland moved westward in the

same manner as soldiers execute the drill 'left close'.[39] Roosevelt assured Stalin that he 'would like to see [Poland's] Eastern border moved further to the west and the Western border moved even to the River Oder'. Thus the question of Poland's borders was on the agenda. Roosevelt was not present when Churchill and Eden discussed with Stalin. He spoke to Stalin later and in private, explaining that 'he could not publicly take part in any such arrangement at the present time'; the American presidential election of 1944 were coming up and there were 'six to seven million Americans of Polish extraction' that Roosevelt did not want to alienate.[40]

When Roosevelt, Stalin and Churchill later returned to the issue, it took only a few hours until they settled Poland's eastern border and reached a general agreement in the west. The three heads of state and their entourages huddled over an American map and discussed where the Polish-Soviet border should fall in detail, see fig. 3.8, p. 107. Stalin elaborated his position by drawing on the map with a red pencil, for details see fig. 3.9, p. 108. At first, he insisted on the Molotov-von Ribbentrop line (thin black, dash-dotted line), but then added that he would be willing to accept the more easterly Curzon line (light blue), if 'parts of eastern Prussia, including the ports of Königsberg and Tilsit', were given to the Soviet Union. Thus Stalin took a red pencil, hatched the areas between the Molotov-von Ribbentrop line and the Curzon line and drew a line through East Prussia, south of Königsberg and Insterburg.[41] Indulging the Curzon line in exchange for the northern part of East Prussia was a favourable deal for Stalin. It satisfied Soviet strategic aims. The territory around Białystok would have given the Soviet Union a border that was further west but much less defensible than the Curzon line. Königsberg and Tilsit gave the Soviet Union presence on the Baltic Sea and warm-water ports.

The American map on which Stalin drew, fig. 3.8, p. 107, had a geography that consisted of political borders, railway lines and rivers. It showed Białystok as a

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[39]FRUS, United States Department of State, *The Conferences at Cairo and Tehran 1943* (U. S. Government Printing Office, 1961), p. 512, http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1943CairoTehran.

[40]FRUS, ibid., p. 594.

[41]FRUS, ibid., pp. 599-601.

Figure 3.8: CA 3, US-Soviet map of Poland's eastern frontier. At negotiations in Tehran on 1 December 1943 Stalin drew (red pencil) on this American map. He detailed where he wanted the Polish-Soviet frontier and proposed the policy of population transfers.

Source: FRUS, United States Department of State, *The Conferences at Cairo and Tehran 1943* (U. S. Government Printing Office, 1961), http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1943CairoTehran, p. 600.
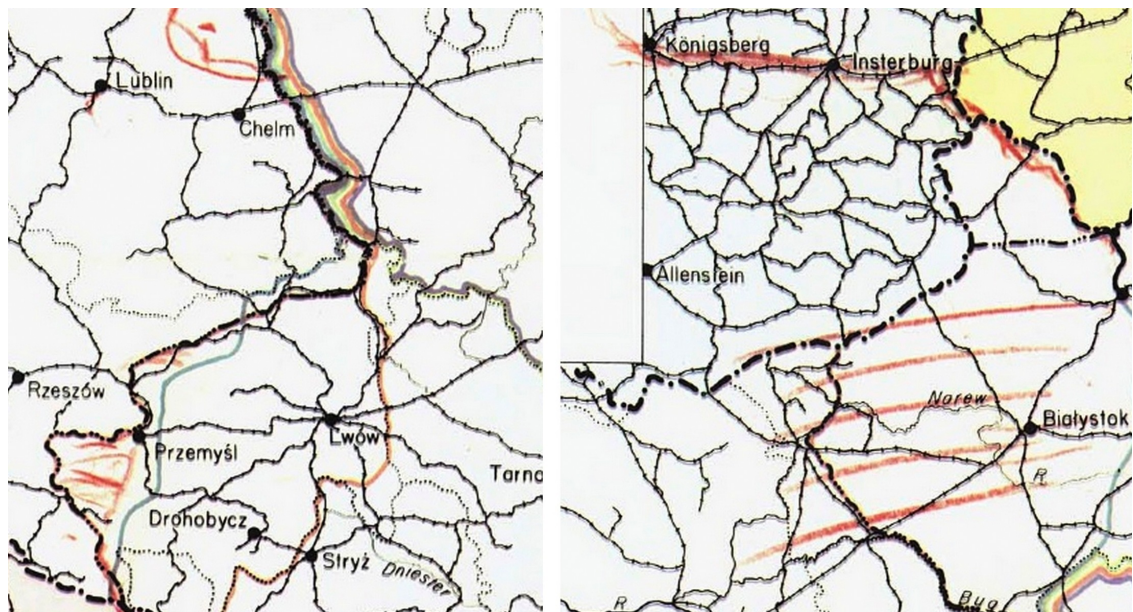
Figure 3.9: Details of fig. 3.8, showing Stalin's additions. Left, bottom: Territory the Soviet Union would cede by agreeing to the Curzon Line. Left, top: Area of Ukrainian majority that would become Polish and would thus require a population exchange. Right, centre: Area around Białystok, predominantly Polish, that the Soviet Union would cede by agreeing to the Curzon Line. Right, top: Soviet border through East Prussia, condition for Soviet agreement to the Curzon Line.

hub of five railway lines, which was the main argument for the Soviet Union to claim the area in spite of defensive disadvantages. In order for the Soviet Union to make use of Königsberg and Tilsit, the railways in and out of the cities had to be under her control as well. Stalin could draw the border through East Prussia because the map showed railway lines. Conversely, population and ethnicity were not part of the map's geography, hence it showed neither Białystok as Polish nor Königsberg as German. The ethnicity question, however, was not forgotten or ignored. Stalin stated during the meeting that the Soviet Union did 'not wish to retain any regions primarily occupied by Poles even though they were inside the 1939 line'. This applied above all to the large area around Białystok, between the Molotov-von Ribbentrop line and the Curzon line. In addition, he marked a predominantly Ukrainian area northeast of Lublin and west of the River Bug that the Soviet Union would not claim. When Roosevelt asked whether a 'transfer of peoples from the mixed areas was possible', Stalin agreed emphatically.[42]

Forced displacement of people has occurred throughout history, but the organised transfer of ethnic shares of the population is a phenomenon of the 20th century. It is linked to the idea of a nation state that is somehow homogenous, be it with respect to religion, language or ethnicity. The first such transfer took place between Greece and Turkey in 1923. The two countries had been at war from summer 1919 to summer 1922 and both sides used extreme violence against civilians of the opposing party.[43] Great Britain, France, Italy and Japan were the powers that negotiated a peace. They realised that the minority clauses in the Paris peace treaties after World War I offered insufficient protection in an increasingly nationalist climate. Hence they came to think that to 'unmix the populations in the Near East' would secure pacification.[44] On 30 January 1923 Turkey and Greece signed the 'Convention concerning the Exchange of Greek and Turkish Populations' in Lausanne. From this followed, Pertti Ahonen et al (2008) argue, a 'radical and permanent restructuring of the demographic map of the

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[42]FRUS, United States Department of State, *Tehran*, pp. 599-601.

[43]Pertti Ahonen et al., *People on the Move : Forced Population Movements in Europe in the Second World War and Its Aftermath*, Occupation in Europe : The Impact of National Socialism and Fascist Rule (Oxford: Berg, 2008).

[44]Cited in: ibid., p. 8.

Aegean region [that] greatly accelerated the process of ethnic homogenisation' in both countries and set a 'precedent for international conflict resolution' in the 20th century.[45] The attitudes of Roosevelt, Stalin and Churchill on population exchanges were positive at the latest since summer 1942. On 7 July Eden informed Edvard Beneš, Prime Minister of Czechoslovakia, that 'he and his colleagues agree with the principle'.[46] The Soviet Union pursued strategies of homogenising the population with force throughout the war.[47]

Stalin made his additions to the map while agreeing with Churchill and Roosevelt on the border and the handling of ethnic minorities. Because the map showed the coast line, cities and railway lines, but ignored people, Stalin could mark his preferred border without obstructions and add the population back into the map afterwards. That way he also established the procedure by which Roosevelt, Churchill and himself would handle the problem of ethnic minorities. The map structured Stalin's agency and his interaction with Roosevelt and Churchill.

The political borders proposed by Roosevelt were flexible features. There were six options from which Stalin could choose and sample and he could add his own. The map's rigid features were railways and cities, including the Königsberg port on the Baltic Sea. These rigid features guided and stabilised the political border that Stalin drew. Stalin's pen added swamps and the Polish-Soviet border as rigid features and populations as a flexible feature. Roosevelt, Stalin and Churchill fixed the border and established the procedure of transferring ethnic minorities by modifying the map and referencing its rigid features. They coordinated their agency by interacting through the map.

3.4.2 Quebec

Before the Polish-German frontier could be agreed, Germany's postwar shape had to be determined. That happened at Quebec in September 1944. Stalin ultimately did not attend the meeting, officially for military responsibilities. He

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[45]Ahonen et al., *People on the Move*, p. 10.
[46]Cited in: ibid., p. 65.
[47]Ibid., pp. 73.

consistently avoided ground that the US or Britain controlled. His position on postwar Germany, however, had been trashed out in preparatory meetings.[48] This was sufficient for Roosevelt and Churchill to figure out between the two of them which map would satisfy Stalin. Two maps were of American origin, one was drafted by Roosevelt, the other by Henry Morgenthau, the Secretary of the Treasury. The third map came from the European Advisory Commission (EAC), an interallied body that the members of the Grand Alliance had set up to coordinate on postwar issues.

At Tehran our three actors had only agreed that Germany would lose East Prussia and Upper Silesia. The Anglo-Saxon approach was to reign in Germany by breaking her up. Prussia and her militarism should be separated from the industrial capacities in the rest of Germany, particularly the Rhineland. Roosevelt pursued that approach in the map that he had brought to Quebec, see fig. 3.10, p. 112. He proposed to assign a strip in the southeast to Austria, the Alsace to France, the Rhineland and the northwest to an international zone; the remainder should be divided up into a southern, middle and northern German state.[49] Roosevelt drew no borders in the eastern zone of the map. He left room to accommodate the westward shift of Poland that he had promised to Stalin in Tehran.

Henry Morgenthau and the US Treasury put forward a similar proposal, see fig. 3.11, p. 113.[50] Germany should be dismembered into an international zone, a northern and a southern German state. Austria would not gain territory, but France would receive the Saarland and some territory would go to Denmark. Morgenthau's map was much more explicit on postwar Poland than Roosevelt's, possibly because Morgenthau was not familiar with the agreement of Roosevelt and Stalin to move the Polish-German border all the way to the River Oder. In Morgenthau's vision Poland would only receive Upper Silesia and the southern part of East Prussia.

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[48]FRUS, United States Department of State, *The Conference at Quebec 1944* (U. S. Government Printing Office, 1972), pp. 386-8, http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1944.
[49]Reproduced in: FRUS, ibid., facing p. 476.
[50]Reproduced in: FRUS, ibid., facing p. 86.
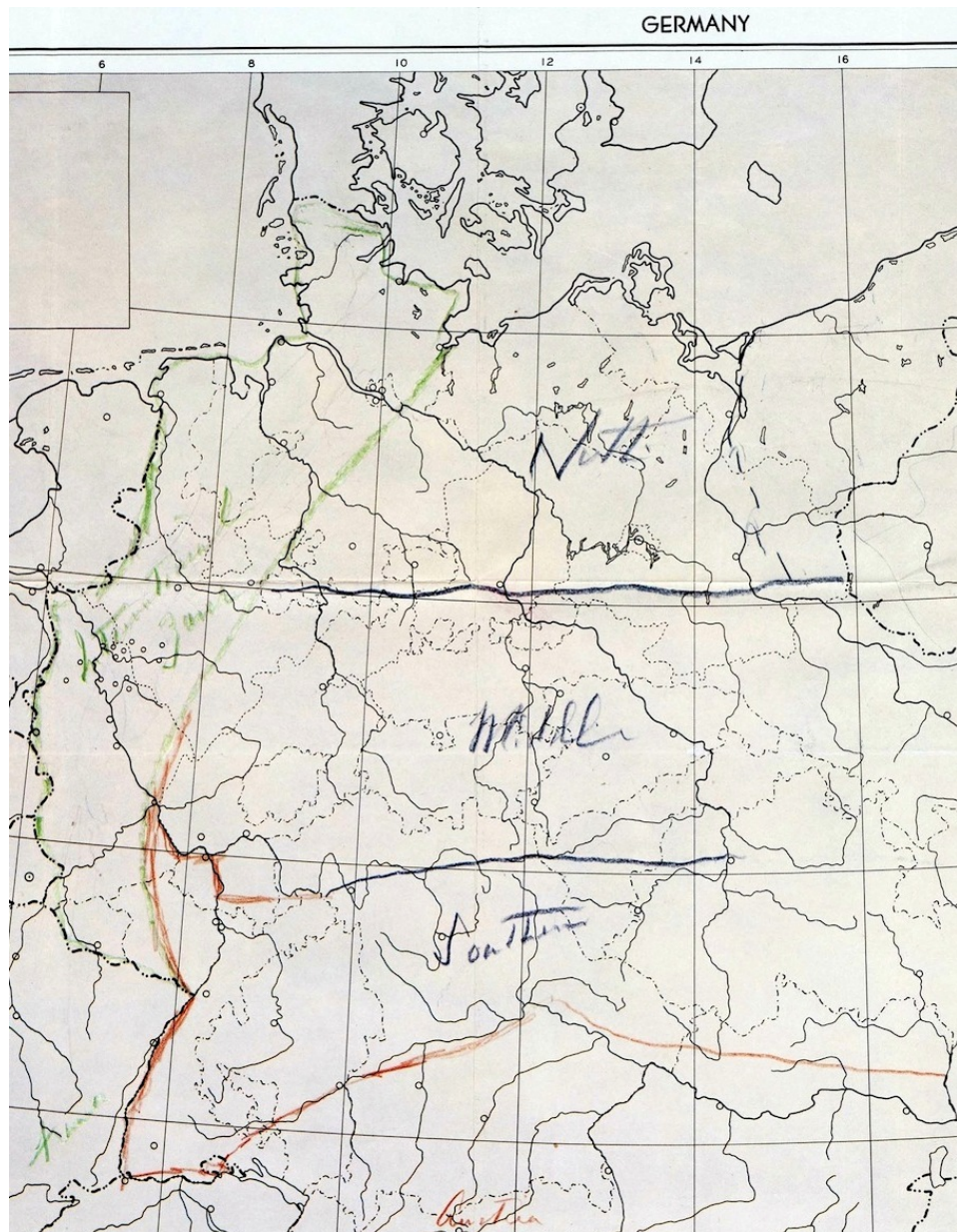
Figure 3.10: CA 4, map of Roosevelt's unsuccessful proposal at Quebec to dismember Germany, September 1944. Roosevelt market an international zone (green) in the west, Austria's accessions in the south (red) and divided up the remaining territory into a northern, middle and southern German state. In Germany's east Roosevelt remained vague. That left room to accommodate the Polish accessions that he had promised to Stalin. The location of the western Soviet border is not shown, but was probably thought to fall with Poland and the Baltic states.
Source: FRUS, United States Department of State, *The Conference at Quebec 1944* (U. S. Government Printing Office, 1972), http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1944, p. 476

Figure 3.11: CA 5, map of Henry Morgenthau's unsuccessful proposal at Quebec to dismember Germany, September 1944. An international zone (yellow) was marked in the west, the Saarland would go to France, Upper Silesia and part of East Prussia would go to Poland, the remainder of Germany should be divided into a northern and a southern state. The western Soviet border would be with Poland and the Baltic. *Source:* FRUS, United States Department of State, *The Conference at Quebec 1944* (U. S. Government Printing Office, 1972), http://digital.library.wisc.edu/1711.dl/ FRUS.FRUS1944, p. 86.

The US and Britain broadly acknowledged and accepted the Soviet postwar aim
to gain security from Germany. Roosevelt and Morgenthau tried to accommodate
this concern in their maps by breaking up Germany and treating her political
boundaries as flexible. Germany's boundaries were flexible to Stalin as well, but
his vision of Soviet security from Germany was very different than Roosevelt's
and Morgenthau's. Moreover, Stalin wanted to establish the Soviet Union as
guarantor against Germany for all of Central and Eastern Europe. Stalin did not
think that he would achieve that aim through either of the geographic
arrangements proposed by Roosevelt and Morgenthau. Hence he rejected their
maps.

Stalin's vision was satisfied by the map that the European Advisory Commission
(EAC) proposed, see fig. 3.12, p. 115. The EAC was set up in fall 1943 to develop
and coordinate joint postwar planning of the US, the Soviet Union and Britain.[51]
It was ineffective in most of its endeavours, unsurprisingly since the common
interest of the Grand Alliance did not extend beyond the defeat of Germany. The
EAC map of Germany's postwar territory was an exception though. It proposed a
division of Germany into three occupation zones and established tripartite control
over Berlin. Hence Soviet troops would be located west of the Polish-German
border. Already by August 1944 the Grand Alliance agreed that the northeastern
zone would go to the Soviet Union, if the zonal division came into existence. After
the Western Allies submitted to the EAC proposal at Quebec, it took them a few
more months to decide which of the remaining zones would become American and
which British. The French zone was later created from parts of the American and
British zone. It was crucial for Stalin that the EAC proposal showed the
westernmost Soviet position in Germany, west of Poland and the other states that
the Soviet Union wanted to control after the war. Hence Stalin accepted the EAC
proposal, but rejected Roosevelt's and Morgenthau's maps.[52]

Up until the Quebec meeting the members of the Grand Alliance had not exactly
delimited their postwar spheres of influence. They overlapped in an area that

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[51]For the genesis of the EAC, see Bruce Kuklick, 'The Genesis of the European Advisory Com-
    mission', *Journal of Contemporary History* 4, no. 4 (1969): 189–201.
[52]FRUS, United States Department of State, *Quebec*, pp. 385-92.
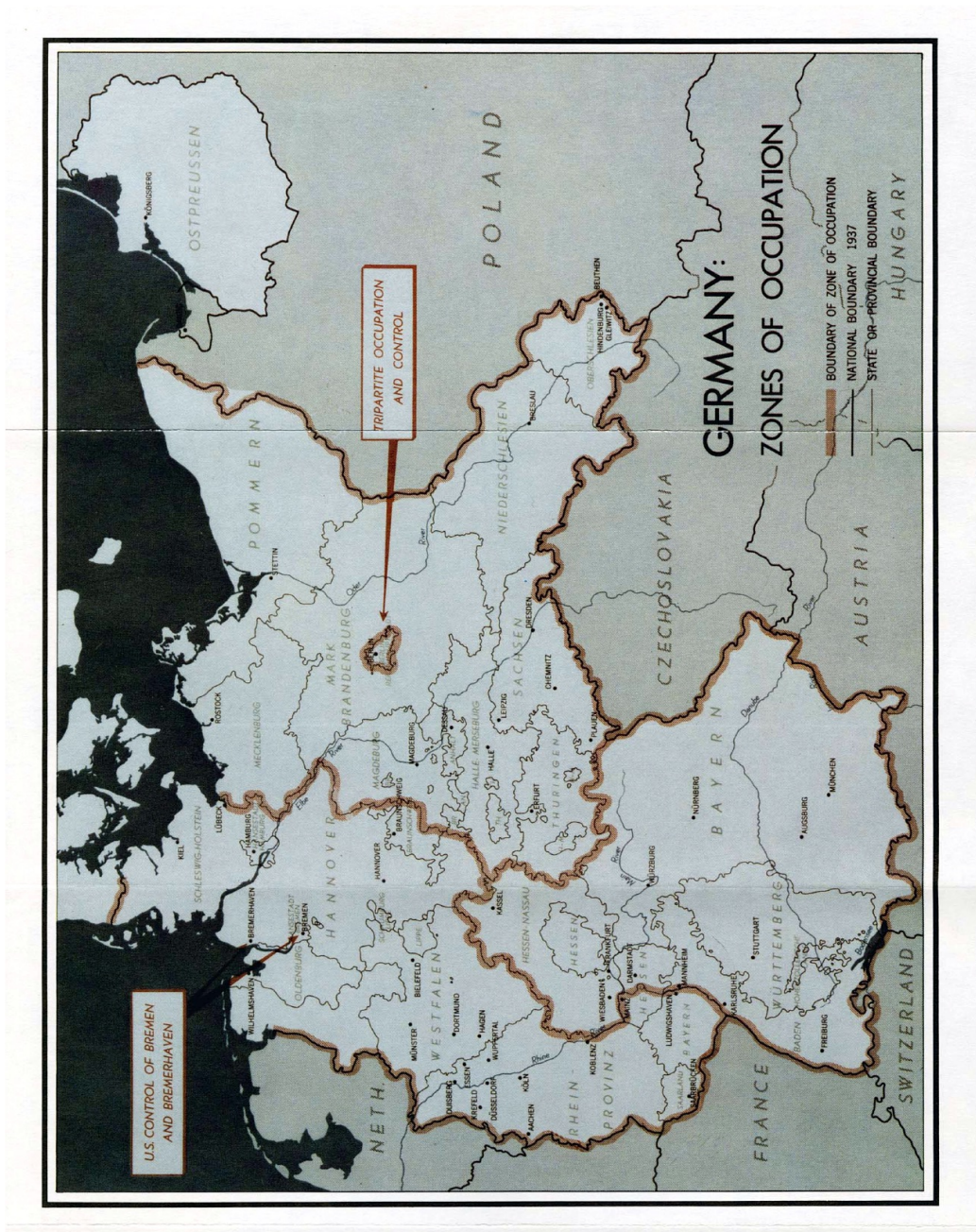
Figure 3.12: CA 6, map of the European Advisory Commission (EAC). The proposal to divide Germany into zones of occupation was adopted by the Allies at the Quebec Conference in September 1944. The northeastern zone went to the Soviet Union. The US and Britain agreed in December 1944 who would occupy the western zones. The French occupation later drew on the American and British zones.
Source: FRUS, United States Department of State, *The Conference at Quebec 1944* (U. S. Government Printing Office, 1972), http://digital.library.wisc.edu/1711.dl/ FRUS.FRUS1944, p. 394

stretched somewhere from the eastern half of prewar Germany to the western half of prewar Poland. The EAC map specified these spheres of influence and thereby the actors' scope of agency. The flexible features of the map, the Polish-German frontier and the zonal boundaries within Germany, would be stabilised by a rigid feature, the permanent location of Soviet, British and American occupation forces after the war.

Roosevelt and Churchill submitted to Stalin's will by accepting the EAC map. Let us ponder what might have happened, if they had insisted on Roosevelt's map. This will allow us to make a conceptual distinction between cognitive artefacts and boundary objects. American, British and Canadian troops landed in Normandy in June 1944, three months before the agreement on the EAC map. The Western Allies established a second front against Germany in Normandy. At the same time the advance of the Red Army had gained great momentum and put the eastern front into Eastern Poland and East Prussia, see fig. 3.2, p. 94. Roosevelt and Churchill feared throughout the war that the Soviet Union might make a separate peace with Germany. Had they rejected the EAC map, Roosevelt and Churchill might have triggered Stalin to do just that. A Soviet-German peace would have resulted in a concentration of Germany's military resources on the western front. This would have extended the war, increased the material and human cost to the US and Britain and jeopardised their postwar aim to control Western Europe. Another possible consequence of rejecting the EAC map was that the Allied armies would start racing towards Germany, the Red Army from the east and the Western Allies from the west and the south, to control as much territory as possible. Such a race would have been the end of the Grand Alliance and, quite possibly, the beginning of hostilities between the Soviet, American and British armies.

In the previous chapter we have pointed to the competitive aspect of cognitive artefacts. They are produced and circulated by rivalling actors in an uncertain political process. Actors do not know to which extent and for which price their negotiation partners will cooperate. Star and Griesemer, however, presuppose cooperation and argue that boundary objects 'emerge [...] as groups from

different worlds work together'.[53] While boundary objects are the product of cooperating actors, the cognitive artefacts discussed here were produced by actors trying to identify the conditions for cooperation.

3.4.3 Yalta

The Red Army took Warsaw on 17 January 1945. The eastern front moved westwards quickly, towards Berlin and beyond, towards the western border of the Soviet occupation zone. In Europe the end of the war was in sight in February 1945 and Roosevelt, Stalin and Churchill met in Yalta. Roosevelt travelled with a map of the Polish-German border, see fig. 3.13, p. 118.[54] The map proposed four options for territorial changes between Germany and Poland. Option D, the minimal option, proposed the cession of Upper Silesia and East Prussia, given as lightly hatched areas. Option C in addition assigned to Poland a wedge of Pomerania, the dotted area in the map. Option B added the territory east of the Oder, hatched moderately in the map. Option A included the strongly hatched territory between the Neisse river and the Oder river into Poland as well.

Roosevelt's map detailed the territories Germany would lose and Poland would gain by size, total population and the percentage of Germans. Fig. 3.14, p. 119, shows East Prussia, Danzig and Pomerania. The transfers of territory and population for options D to A were quantified in the legend, see fig. 3.15, p. 120, and fig. 3.16, p. 120. Populations were a fully flexible feature in the map. Or rather: the mobility of populations was a rigid feature. Wherever Roosevelt, Churchill and Stalin would ultimately draw the border, it would be stabilised by the transfer of ethnicities in and out of the areas concerned. Like the map of the US Territorial Subcommittee, fig. 3.4, p. 99, the State Department map treated population as separated from territory. It specified this separation more fully by indicating and quantifying the area and the people that were affected.

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[53]Star and Griesemer, 'Boundary Objects', p. 408.

[54]Reproduced in: FRUS, United States Department of State, *The Conferences at Malta and Yalta 1945* (Washington, D.C.: U. S. Government Printing Office, 1955), http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1945, facing p. 200.

Figure 3.13: CA 7, map of the US State Department on territorial changes between Poland and Germany from 10 January 1945. The map shows four options for the Polish-German border. Population was a fully flexible feature in the map. Wherever the border would fall, Poles and Germans would be transferred into their national boundaries. The map was used at Yalta and again at Potsdam where the Polish Government was present and the border decision was made public.
Source: FRUS, United States Department of State, *The Conferences at Malta and Yalta 1945* (Washington, D.C.: U. S. Government Printing Office, 1955), http:// digital.library.wisc.edu/1711.dl/FRUS.FRUS1945, p. 200

Figure 3.14: Detail of fig. 3.13. Numbers indicate area size, total population and share of Germans that would be transferred. Population was a flexible feature.

PROPOSED CESSION OF TERRITORY BY GERMANY	AREA IN SQ. MILES	POPULATION 1939 CENSUS
Territory east of Line D	18,032	4,015,613
Territory added by Line C	6,812	835,884
Total east of Line C	24,844	4,851,497
Territory added by Line B	10,473	2,104,553
Total east of Line B	35,317	6,956,050
Territory added by Line A	8,106	2,721,512
Total east of Line A	43,423	9,677,562

NOTE: *The former Free City of Danzig is not included in the above tables.*

Figure 3.15: Detail of fig. 3.13. Breakdown of additional territory and German population that would be affected by the four border options.

PROPOSED ANNEXATIONS BY POLAND	AREA IN SQ. MILES (Cumulative Totals)	POPULATION 1939 CENSUS
East of Line D	14,766	3,406,613
East of Line C	21,578	4,242,497
East of Line B	32,051	6,347,050
East of Line A	40,157	9,068,562

NOTE: *Tables include Danzig and exclude East Prussia north of dotted line (probable minimum annexation by USSR).*

Figure 3.16: Detail of fig. 3.13, indicating total territory and German population that would be affected by the four border options.

The US State Department proposed four options for the Polish-German boundary in its map. Hence it would be wrong to call the boundary a fully rigid feature, nor would it be adequate to say that it was flexible. Lampland's terminology allows us to describe the boundary options as provisional both in a 'temporary' and a 'conditional' sense.[55] They were temporary because the map was not a 'historical document' that recorded a conclusion, but an anticipation of 'future possibilities'.[56] The boundary options were conditional because they were the 'product of [...] political machinations' between Roosevelt, Churchill and Stalin that had not fully played out yet.[57] The particularity of the State Department map was that it showed several provisional borders at the same time.

The State Department's briefing book for the Yalta Conference advised Roosevelt to advocate option C. The State Department argued that Pomerania had a strong Polish ethnicity, that the region's industry would benefit the Polish economy and that it would consolidate Polish access to the sea. The Curzon line should be Poland's border in the east, except the province of Lwów for its Polish inhabitants and the oil fields. Such a border, argued the State Department, would 'from a long range point of view contribute materially to the future peace and tranquility of Europe'.[58] It minimised 'future points of friction, possible Irredentism [...] and the number of minority groups which would have to be transferred'.[59] To the State Department, the Polish-German border was stabilised by a mix of ethnic, economic and strategic considerations. The State Department conceded though, that the territorial question was 'definitely secondary to the major problem, the establishment of a viable and truly independent Polish government'.[60] Ahead of the Yalta meeting Churchill argued in a similar way as the State Department. He supported the Curzon line, but thought that Poland should not be compensated all the way up to the Oder.[61]

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[55]Lampland, 'False numbers as formalizing practices', pp. 384-7.
[56]Ibid., p. 384.
[57]Ibid., p. 385.
[58]FRUS, United States Department of State, *Yalta*, p. 232.
[59]FRUS, ibid.
[60]FRUS, ibid., pp. 232-3.
[61]FRUS, ibid., p. 233.

When Roosevelt, Stalin and Churchill met in Yalta, they did not even discuss the map of the US State Department. Stalin told his allies that the 'Soviet armies were moving very successfully onto the line of the Oder' and that was that.[62] The Polish-German border was not provisional to Stalin. The border that the Red Army was about to establish on the ground was equivalent to option A in the State Department map. For Roosevelt and Churchill to insist on one of the other options would probably have resulted in a military conflict with the Soviet Union. Hence Roosevelt shifted the focus and replied to Stalin that he was 'not so concerned with frontiers' but with 'the governmental question' of Poland.[63] The three actors did not agree on status and location of the Polish-German border in Yalta. It was clear though that the Oder-Neisse line was rigid to Stalin and that the US and Britain would not challenge the Soviet Union militarily. This constellation brought representatives of the Polish state into border diplomacy.

What was the situation between the Grand Alliance and Poland's political leadership in February 1945? During 1943/44 Roosevelt, Stalin and Churchill had shifted around Poland so that it met their own requirements. At the same time they kept up appearances with the Polish exile government in London, by conducting sham negotiations about the borders. Stalin calculated that establishing the Polish-German border far in the west on German territory, on the Oder and the Western Neisse, would result in the transfer of about 10 million ethnic Germans. The consequence would be strong German irredentism that forced Poland to turn to the Soviet Union for protection.[64] Yet, since Poland should be 'protected and not 'occupied' by the Red Army, there had to be a political process that included the Poles. To that end the Soviet Union propped up a communist proxy, the so-called Lublin Committee, that rivalled the Polish government exiled in London.

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[62]FRUS, United States Department of State, *Yalta*, p. 570.

[63]FRUS, ibid., pp. 570, 718.

[64]FRUS, ibid., p. 232; Debra J. Allen, *The Oder-Neisse Line: The United States, Poland, and Germany in the Cold War*, Contributions to the Study of World History (Westport, CT: Praeger, 2003); Gotthold Rhode and Wolfgang Wagner, eds., *The Genesis of the Oder-Neisse Line in the Diplomatic Negotiations During World War II : Sources and Documents* (Stuttgart: Brentano-Verlag, 1959).

At a meeting with the Polish exile government in Moscow on 13 October 1944, about a year after the Grand Alliance had fixed the Polish-Soviet frontier, Poland's Prime Minister Stanisław Mikołajczyk maintained that only the Polish people could decide about the 'cession of territory' and that he could therefore not accept the Curzon line. Stalin had replied that Mikołajczyk 'ignored the existence of the Polish Committee of National Liberation', the Lublin Committee.[65] Churchill had urged Mikołajczyk to 'accept the Curzon line as the *de facto* line of demarcation' and wait for a 'final settlement at the peace table'. Otherwise the 'Poles in London and the British government [had] to separate'. Churchill had furthermore assured Mikołajczyk support for compensation in the west. Vyacheslav Molotov, the Soviet Minister of Foreign Affairs, eventually had given away to Mikołajczyk 'that the Curzon line had the support of the 3 major allies since [...] Tehran'.[66]

Mikołajczyk learned about the Grand Alliance's machinations a few weeks before the American presidential elections. The news did not travel far and fast enough though to turn Polish-American voters away from Roosevelt. He was reelected on 7 November 1944. On 17 November Roosevelt informed Mikołajczyk that the US government was 'unequivocally for a strong, free and independent Polish state', but that he could not 'give a guarantee for a specific frontier'. If the Polish, Soviet and British government came to a 'mutual agreement', Roosevelt stated, the US government would not object. Moreover, the US would not object to a 'transfer [...] of national minorities', if desired by the 'Polish government and people'.[67] Thus, in late 1944, the political playing field had tipped in favour of the Lublin Committee. Thereafter Mikołajczyk unsuccessfully tried to convince his cabinet to accept the Curzon line. He resigned and was followed by a more nationalistic and anti-Soviet government under Tomasz Arciszewski, which counted on the Western Allies to push for democracy in Poland once the war was over. In late 1944 the Soviet press started to peddle news that the Polish people demanded the Lublin Committee to assume the role of government. It did so on 31 December and on 5 January 1945 it was officially recognised by the Soviet

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[65]FRUS, United States Department of State, *Yalta*, p. 202.
[66]FRUS, ibid., pp. 202-3.
[67]FRUS, ibid., pp. 209-10.

Union.[68] Unlike the Polish government exiled in London, the Lublin Committee accepted the Curzon line in the east and demanded territorial compensation from Germany in the west, up to the Oder-Neisse line.[69] The Lublin Committee's view of Poland's borders was identical to Stalin's. The US and Britain refused to recognise the Lublin Committee.

While Roosevelt, Churchill and Stalin could not overcome their differences on the location of the Polish-German border, they agreed on the stabilising feature. A provisional Polish Government, supported by the Grand Alliance, should get democratic legitimisation as soon as possible.[70] Such a government would express the will of the Polish people and thereby be able to determine and stabilise Poland's border. Roosevelt, Stalin and Churchill agreed to assist in forming the provisional government and in holding elections 'during the temporary period of instability' that would follow the 'liberation' from Nazi Germany.[71]

Actors do not necessarily get to agree on rigid features. In other words, a diplomatic process does not necessarily resolve the disagreements between actors. We could observe that in adoption of the Polish-German border by the Paris Peace Conference in 1920. Rather than resolving whether railways or people were more rigid, actors in Paris made parts of the border provisional. The outcome that Roosevelt, Stalin and Churchill achieved in Yalta calls attention to a similar way of maintaining agency without resolving differences of opinion. Instead of figuring out amongst themselves where Poland's border was rigid, the three actors passed on the issue to an outside party.

3.4.4 Potsdam

The leaders of the Grand Alliance met for the last time in Potsdam from 17 July to 2 August 1945. Roosevelt had died on 12 April 1945 and was succeeded by

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[68]Richard C. Lukas, *The Strange Allies : The United States and Poland, 1941-45* (Knoxville, TN: The University of Tennessee Press, 1978), pp. 131-4; FRUS, United States Department of State, *Yalta*, pp. 210-1.
[69]FRUS, ibid., p. 232.
[70]FRUS, ibid., p. 719.
[71]FRUS, ibid., p. 972.

Harry Truman. Churchill lost the elections and Clement Attlee followed as Prime Minister on 26 July, while the Potsdam Conference was in session. In Europe the war had ended with Germany's unconditional and total surrender on 8 May 1945. In the run up to the Potsdam meeting, on 28 June 1945, Poland's Provisional Government of National Unity was formed. The US and Britain recognised it on 5 July. On 10 July Zygmunt Modzelewski, the new Polish Deputy Minister of Foreign Affairs, wrote from Moscow to Averell Harriman, the US Ambassador to the Soviet Union. Modzelewski stated that his government, representative of a 'free and democratic Poland', wished for Poland's border with Germany to fall on the Oder-Neisse line, including Stettin, see fig. 3.17, p. 126. Such accessions would be an 'appreciable compensation' for the losses that his country incurred through the Curzon line. These compensations would give Poland an 'adequate territory' and make her 'strong and independent'.[72]

A delegation of Poland's Government of National Unity attended the Potsdam Conference, too. The Polish Delegation appeared in front of the Council of Foreign Ministers on 24 July and stated again that it accepted the Curzon line as Polish-Soviet border. Moreover, the Delegation demanded the Oder-Neisse line, including Stettin, as Polish-German border.[73] Truman and Attlee protested against Polish demands and did not formally agree to the Oder-Neisse line. They saw no other option, however, than to 'recognise the *fait accompli*' that the Red Army had created on the ground.[74] The members of the Grand Alliance reached a compromise by describing the Oder-Neisse line as an intermediary solution and by demanding 'free and unfettered elections' from the provisional Polish government as soon as possible.[75] The Polish-German border should be definitely fixed in a peace settlement with Germany.

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[72]FRUS, United States Department of State, *The Conference of Berlin (the Potsdam Conference) 1945*, vol. 1 (U. S. Government Printing Office, 1960), pp. 757-8, http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1945Berlinv01.

[73]FRUS, United States Department of State, *The Conference of Berlin (the Potsdam Conference) 1945*, vol. 2 (U. S. Government Printing Office, 1960), pp. 332-5, http://digital.library.wisc.edu/1711.dl/FRUS.FRUS1945Berlinv02.

[74]FRUS, ibid., p. 1152.

[75]FRUS, ibid., p. 1508.
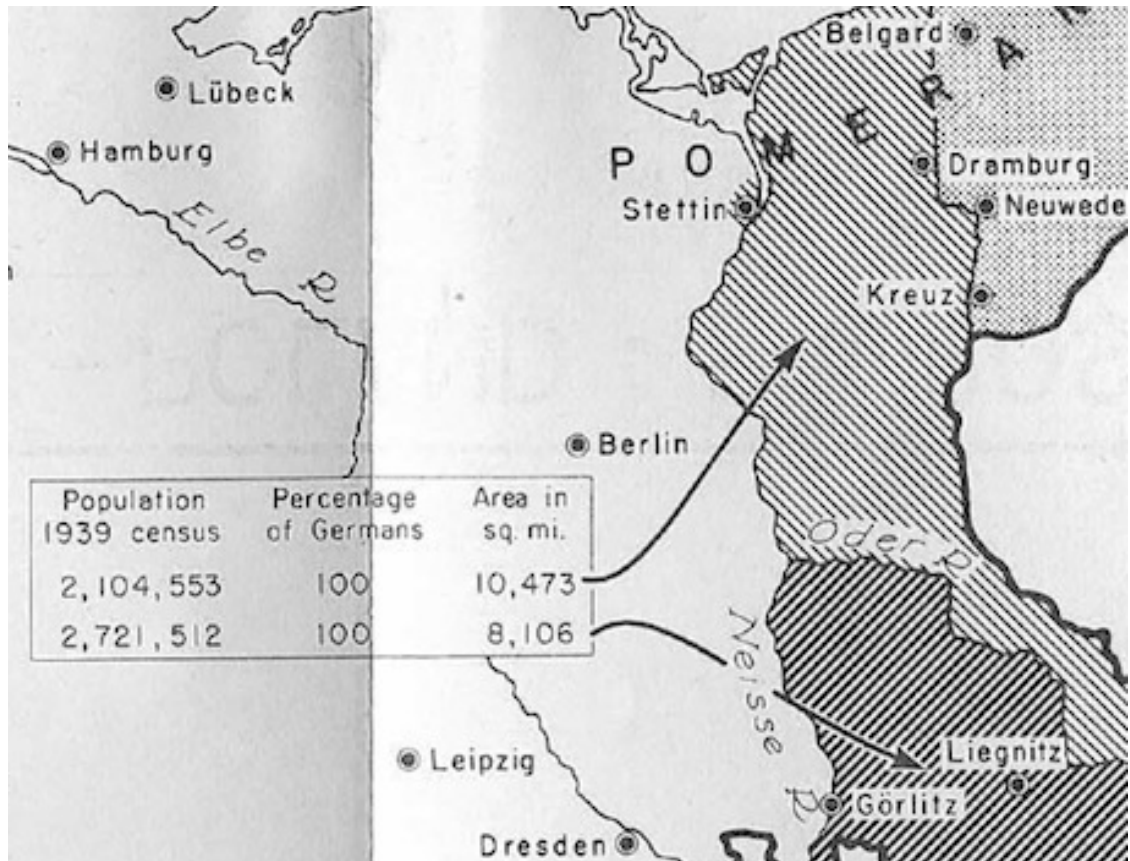
Figure 3.17: Detail of fig. 3.13 with the Oder-Neisse line, the Polish-German border since July 1945. Formally, according to the agreement between the US, Britain and the Soviet Union in Potsdam 1945, the Oder-Neisse line was provisional. They agreed that the final border should be settled in a peace treaty with Germany. In fact, however, the Oder-Neisse line has been rigid since July 1945 as the peace treaty never came.

The inconclusive results of the Potsdam Conference and the subsequent Cold War produced an odd situation. Since the peace settlement with Germany never came, the Oder-Neisse line remained formally provisional, but was in fact rigid.[76] In 1990 the US, Britain, the Soviet Union and France made Germany's formal recognition of the Oder-Neisse line a condition for the reunification. Only with Germany's acceptance did the Oder-Neisse line became formally rigid.

3.5 Analytical conclusions: Themes from the case

Between early 1943 and mid-1945 political actors from the US, Britain and the Soviet Union delimited, specified and used their scope of agency in determining Poland's borders. Poland's borders were a function of the actors' strategic aims, which were underpinned by military on the ground. The actors iteratively coordinated and demarcated their strategic aims by producing, circulating, rejecting and modifying maps and tables. Cognitive artefacts had mostly flexible features, due to the underlying movement of armies and the assumption that territory would ultimately be controlled by military means. Political borders emerged and were gradually stabilised as the contours and practical aspects of the actors' territorial control became clearer. The flexibility of Allied armies on the move turned into the rigidity of well-defined zones of occupation.

The previous case on Poland's interwar borders has established that cognitive artefacts are a means of coordinating agency between several actors. This case shows, by example of table and map of the US Territorial Subcommittee, that cognitive artefacts are used by single political actors to a similar effect. A single actor uses cognitive artefacts to coordinate his concrete policies with broader strategic parameters.

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[76]Compared to fig. 3.17, p. 126, the Soviet Union and Poland agreed in September 1945 to shift the border a few more kilometres to the west between Stettin and the Baltic Sea. This resulted in the final Oder-Neisse line. Daniel-Erasmus Khan, *Die deutschen Staatsgrenzen: Rechtshistorische Grundlagen und offene Rechtsfragen*, Jus Publicum (Tübingen: Mohr Siebeck, 2004), p. 324.

The case allows us to further distinguish cognitive artefacts from boundary objects. While boundary objects emerge through the cooperation of actors, actors use cognitive artefacts to find out if and under which conditions cooperation is possible. This was evident on three occasions. First, in the simultaneous circulation of several mutually exclusive cognitive artefacts, one of which was eventually selected. Second, in the circulation of a single map with several mutually exclusive features that were neither rigid nor flexible. These features were provisional in Lampland's sense and coexisted until the actors reached an agreement. Third, in the modification of a map by one actor that precipitated agreement between all actors.

Furthermore, the question has been raised again which role cognitive artefacts play for the legitimisation of agency. Several points have been made in the previous case. First, an actor claims legitimacy through the rigid and flexible features of a cognitive artefact. Second, an actor tries to gain legitimacy by giving different types of cognitive artefacts different rigid and flexible features. From the current case we learn that actors may produce cognitive artefacts to legitimise agency retrospectively. The theme will be pursued further in the following cases.

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4 European recovery and German reparations after World War I

Contents

4.1 Introduction

World War I ended on 11 November 1918, with the armistice between the Allied Powers and Germany. Germany was the last remaining of the Central Powers that furthermore included Austria-Hungary, the Ottoman Empire and Bulgaria. The Allied Powers were France, the British Empire, the United States, Belgium, Italy, Russia and other, smaller countries. Russia had already signed an armistice

with the Central Powers on 15 December 1917. Once the armed conflict ended, the conflict over who would pay for the war broke out. The US insisted that her wartime loans were repaid in full, \$9.5bn in total. The bulk had gone to Britain, \$4.9bn, and France, \$4bn.[1] Britain was herself a net creditor, but her main debtors were hard-pressed for money. Russia's debt to Britain was \$2.5bn, France owed \$3bn and Italy a similar amount.[2]

Defaulting on their American loans was neither an option for Britain nor for France. The two remaining options were domestic taxation and the extraction of reparations from Germany. Resistance to domestic taxation mounted quickly, leading to high reparation demands at the Paris Peace Conference. Yet the reparation question was not resolved and the Treaty of Versailles, signed on 16 June 1919, codified extensive damage categories, a formal procedure to establish a Reparation Commission and a deadline to settle the matter by 1 May 1921. The London Schedule of Payments, from 5 May 1921, fixed Germany's liability at 132bn gold marks. Germany defaulted virtually immediately. The Dawes Plan thus rescheduled reparations in 1924 and was in turn replaced by the Young Plan in 1929. Reparations were suspended in 1931 and cancelled altogether in 1932.[3] This chapter will examine three cognitive artefacts that were used in 1920/21 to determine the distribution of reparations between the Allies, see table 4.1, p. 131. The distribution of reparations was a diplomatic milestone on the way towards a reparation settlement with Germany.

The principal actors who made the London Schedule were French President Alexandre Millerand, Britain's Prime Minister Lloyd George and a small group of Allied financial experts on the Reparation Commission. The US was initially meant to take the helm, but Congress never ratified the Versailles Treaty.

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[1]Broadberry and Howlett, 'The United Kingdom during World War I', pp. 221-2; Hautcoeur, *Was the Great War a watershed? The economics of World War I in France*, p. 191.

[2]Charles P. Kindleberger, *The World in Depression, 1929-1939*, History of the World Economy in the Twentieth Century (Berkeley, CA: University of California Press, 1973), pp. 40-1; Broadberry and Howlett, 'The United Kingdom during World War I', pp. 221-2. Absolute figures for Russian and French debt to Britain are given in Kindleberger, relative figures for Russian, French and Italian debt are given in Broadberry and Howlett.

[3]Leonard Gomes, *German Reparations, 1919-1932 : A Historical Survey* (Basingstoke: Palgrave Macmillan, 2010), pp. 65-212.

Table 4.1: Artefacts of Allied distribution of German reparations post-1918

No.	Date	Actor[1]	Description
1	17.7.1920	Allies	Spa agreement on Allied distribution of reparations
2	2.7.1920	F/UK	*Times* article on French damages and distribution
3	23.2.1921	RC	Statistics on distribution and Allied damage claims

[1] Denominates the political fraction or entity from which the artefacts originated: Allies=British Empire, France, Italy, Belgium, Portugal, Japan; F=France; UK=United Kingdom; RC=Interallied Reparation Commission.

Therefore the US was only in the background of reparations diplomacy in 1920 and 1921.

Like Poland's borders, Germany's reparation obligation stabilised as the actors gradually specified their joint scope of agency. This implies, and will be demonstrated in the following, that reparation numbers did not necessarily correspond with the material value of war damages. The numerical artefacts on reparations were not quantifications of war damages, they were triangulations of the actors' political concerns. By circulating, modifying and rejecting these numerical artefacts, the actors figured out their common scope of agency in fixing Germany's reparations.

4.2 Literature review

4.2.1 Historical literature

Since the work of Sally Marks (1969, 1972, 1978), it is generally accepted that the strangulation of Germany by postwar reparations is a myth. The 132bn gold marks named in the London Schedule were a nominal figure. It had little to do with the amount that Germany actually paid or was expected to pay.[4] 132bn gold marks was the minimum amount, estimated by the Reparation Commission

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[4] Sally Marks, 'Reparations Reconsidered : A Reminder', *Central European History* 2, no. 4 (1969): 356–365; Sally Marks, 'Reparations Reconsidered : A Rejoinder', *Central European History* 5, no. 4 (1972): 358–361; Sally Marks, 'The Myths of Reparations', *Central European History* 11, no. 3 (1978): 231–255.

on 27 April 1921, that public opinion in the Allied countries would accept as Germany's liability. The London Schedule was mainly a British creation and sanctioned by the other Allied governments.[5] Nominally, the schedule totalled at 132bn gold marks and divided Germany's debt into A, B and C bonds, amounting to 12bn, 38bn and 82bn respectively. Of these, only A and B bonds would be issued by 1 November 1921. The C bonds would not be issued nor bear interest until Germany had covered the A and B bonds. Hence Germany's actual obligation were 50bn gold marks. This amount is seen as absolutely workable by Gerald Feldman (1996), Albrecht Ritschl (2012) and others.[6] However, after paying the annuity for 1921, Germany began to miss her payments. Two attempts in 1924 and 1929 were made to restructure reparations until they were cancelled altogether in 1932. At that point Germany had paid a total commonly estimated at 30bn gold marks.[7] According to Marks, Germany's payments totalled at 20bn gold marks.[8]

Current historiography on reparations, argues Feldman, is engaged in the same battle that contemporary witnesses like John Maynard Keynes and Étienne Mantoux have fought, except with 'new evidence, recycled old evidence and theoretical speculation'.[9] Keynes (1919, 1922) was the first who assigned blame.[10] He diagnosed Allied politicians and experts, in particular those of France, with a flawed understanding of the reparations matter. Mantoux (1946) put forward a counter-diagnosis with his *Carthaginian Peace* and parcelled out responsibility

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[5]Gerald D. Feldman, *The Great Disorder: Politics, Economics and Society in the German Inflation, 1914-1923* (Oxford: Oxford University Press, 1996), p. 339.

[6] Marc Trachtenberg, *Reparation in World Politics: France and European Economic Diplomacy, 1916 - 1923* (New York: Columbia University Press, 1980), pp. 210; Bruce Kent, *The Spoils of War : The Politics, Economics and Diplomacy of Reparations, 1918-1932* (Oxford: Clarendon Press, 1989), pp. 132; Feldman, *The Great Disorder*, pp. 339; Albrecht Ritschl, 'The German transfer problem, 1920-33: a sovereign-debt perspective', *European Review of History: Revue européenne d'histoire* 19, no. 6 (December 2012): 943–964, pp. 945.

[7]Ibid., p. 948.

[8]Marks, 'The Myths of Reparations', p. 233.

[9]Feldman, *The Great Disorder*, p. 309.

[10]John Maynard Keynes, *The Economic Consequences of the Peace* (London: Macmillan, 1919); John Maynard Keynes, *A Revision of the Treaty, Being a Sequel to the Economic Consequences of the Peace* (London: Macmillan, 1922).

accordingly.[11] Mark Trachtenberg (1980) and others have added a perspective that is critical of the British role and shows French diplomacy in reasoned nuances and differentiations.[12] Bruce Kent (1989) does not take sides for any party, but aims for a balanced and all around critical account.[13] Feldman's work (1996) dispels the idea that Germany's role was 'a simple tale of treaty evasion and bad faith'.[14]

While there is no consensus on the responsibilities of the various parties and actors, there is certainly agreement that contemporaries did not approach the reparations problem with the same technical finesse as today's economic historians. Technical sophistication underpins studies that are typically concerned with the weight of reparations on the German economy and Germany's failure to fulfil any of the various payment schemes between 1921 and 1932, see e.g., Ritschl (2012), Albrecht Ritschl and Tobias Straumann (2010) or Niall Ferguson (2000).[15] Zara Steiner (2001) remarks that the statesmen who dealt with reparations had a much poorer grasp of the issue's technical complexity than modern historians.[16]

4.2.2 Cognitive artefacts on reparation and political agency

The London Schedule's structure of A, B and C bonds addressed an issue of political agency. Lloyd George, Millerand and their experts hoped to align their

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[11]Étienne Mantoux, *The Carthaginian Peace: or The Economic Consequences of Mr. Keynes* (London: Oxford University Press, 1946).

[12]Trachtenberg, *Reparation in World Politics*.

[13]Kent, *The Spoils of War*.

[14]Feldman, *The Great Disorder*, p. 309.

[15]Ritschl, 'The German transfer problem'; Albrecht Ritschl and Tobias Straumann, 'Business cycles and economic policy, 1914-1945', chap. 7 in *The Cambridge Economic History of Europe, 1870 to the Present*, ed. Stephen Broadberry and Kevin H. O'Rourke, vol. 2 (Cambridge: Cambridge University Press, 2010), 157–180; Niall Ferguson, 'How (Not) to Pay for the War: Traditional Finance and 'Total' War', chap. 21 in *Great War, Total War: Combat and Mobilization on the Western Front, 1914-1918*, ed. Roger Chickering and Stig Förster (Cambridge University Press, 2000), 409–434.

[16]Zara Steiner, 'The Treaty of Versailles Revisited', chap. 2 in *The Paris Peace Conference, 1919 : Peace without Victory?*, ed. Michael Dockrill and John Fisher, Studies in Military and Strategic History (Palgrave Macmillan, 2001), p. 20.

interests in the reparation matter with those of the public. The amount of 132bn gold marks should satisfy the public's desire for emotional recompense, 50bn gold marks was the amount that the designers of the London Schedule thought to be adequate and feasible. This double function of the schedule indicates that political actors were more concerned with finding room for manoeuvre than with the perfect technical solution. The question of political agency in the reparations matter has been approached from a historical and a rationalist institutionalist perspective.

Studies in the history of economics evaluate the underlying economic ideas that featured in reparations diplomacy. What was the policy paradigm, in Hall's terminology, within which actors operated? The major battle in the realm of discourse was over the so-called transfer problem. The transfer problem refers to the changes of relative prices, expenditure and production as a consequence of the financial transfer of wealth between two countries.[17] Keynes as well as the German government and its financial experts argued between 1919 and 1921 that the reparation burden would destroy the German economy.[18] They reasoned that Germany ran a trade deficit, amongst others through the import of vital foodstuffs, but that reparations had to come out of a trade surplus if they were not to erode the country's capacity to pay. If Germany had to pay reparations beyond its capacity, the German experts argued in 1920, the government was ultimately forced into 'a debauch of borrowing [to which] an unlimited increase of paper issue must follow'.[19]

The design of the London Schedule of May 1921, the first of three reparation regimes, did not take account of the transfer problem argument that Keynes and the German experts advanced. Keynes reiterated his point in numerous publications throughout the following years. Germany's hyperinflation from summer 1921 to 1924 seemed to prove that the transfer of reparations under a

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[17]Philip Brock, *Transfer Problem*, The New Palgrave Dictionary of Economics, 2008.

[18]Keynes, *The Economic Consequences of the Peace*; Eduard Arnhold et al., 'Economical effects of the Paris resolutions.', chap. 1640 in *I. Wahlperiode 1920. Anlagen zu den Stenographischen Berichten. Nr. 1640 bis 1894.* Vol. 366, Verhandlungen des Reichstags (Berlin: Deutscher Reichstag, 1924).

[19]LSEA, Auswärtiges Amt (German Foreign Office), *43 (95) : Memorandum on Germany's Solvency for the Purpose of Reparation*, Berlin, 1920, p. 16.

trade deficit indeed had the disastrous consequences of which Keynes had warned.[20] Consequently, the Dawes Plan was designed to mitigate the transfer problem. From 1924 to 1929 Germany's currency was protected through a stabilisation loan, she should return to the gold standard, her currency reserves were protected from reparation payments and commercial debt was given seniority over reparations.[21]

The most vocal advocates of the transfer problem, economists like Keynes, Josiah Stamp or Carl Bergmann, celebrated the Dawes Plan as the long-awaited triumph of economics over politics. Bergmann, the eminent German expert who had accompanied negotiations and technical discussions around reparations from the beginning, dedicated an entire chapter to the transfer problem in his 1926 *History of Reparations.*[22] His book was published in English in 1927 and widely received. Bergmann remarked on the transfer problem:

> Throughout the world the conviction is gaining ground that, after all,
> a country can make payments abroad for which it receives no
> counterpart only from the surplus of its production - in other words,
> only up to the amount that it can sell to foreign countries in goods
> and services, after its internal requirements have been met.[23]

The technical discussion on the transfer problem peaked in 1929 in the Keynes-Ohlin debate. At that time a committee lead by American industrialist Owen D. Young was preparing the third reparation regime under which Germany would actually have to pay up. Keynes (1929) argued in the March issue of the *Economic Journal* that, in addition to the net transfer of wealth, reparations would also impact Germany's terms of trade.[24] Keynes was the editor of the *Economic Journal.* In June and September Bertil Ohlin and Jacques Rueff (1929)

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[20]Keynes, *A revision of the treaty*; John Maynard Keynes, *Germany's Capacity to pay Reparations*, 1923.

[21]Ritschl, 'The German transfer problem', p. 951.

[22]The German title was *Der Weg der Reparation.*

[23]Carl Bergmann, *The History of Reparations* (Boston, MA: Houghton Mifflin, 1927), p. 304.

[24]John Maynard Keynes, 'The German Transfer Problem', *The Economic Journal* 39, no. 153 (1929): 1–7; Gomes, *German Reparations, 1919-1932*, p. 229-32.

argued against Keynes.[25] If all income effects were taken into account, Ohlin and Rueff maintained, a net transfer did not have to alter the terms of trade, but could lead exclusively to a change in consumption in all countries.[26]

Paul Samuelson (1994) described Keynes as Goliath and Ohlin as David in the transfer problem debate, implying that Ohlin won.[27] At the time, however, Keynes prevailed. He successfully swung the political approach to reparations in the direction that he advocated. As editor of the *Economic Journal* he had the last word over Ohlin and Rueff, too, whose articles were published only with immediate replies of Keynes. Samuelson's David is victorious only in hindsight. Modern transfer theory validates the position of Ohlin and Rueff and maintains that in a two-country, two-commodity model the terms of trade can change in favour of either country, or remain stable.[28] The history of economics has passed unflattering judgement on the technical quality of Keynes' argument of 1929. To Samuelson, the core of Keynes' argument was 'rhetorical bluster and political resentment against the Treaty of Versailles'.[29] Harry Johnson argues that Keynes' contribution was 'technically incompetent' and that his replies to Ohlin were made in bad faith.[30] Robert Mundell calls it 'one of the great puzzles of the history of economic thought' why Keynes took such an 'absurd position' in the matter.[31]

The victory of Keynes in the transfer problem debate changed the scope of agency that political actors had in dealing with reparations in 1921 and in 1924. Evidently, a different set of options was available to the actors that made the Dawes Plan in 1924 than to those who made the London Schedule in 1921. In Peter Hall's classification we are dealing with a 'second-order change', that is the

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[25]Bertil Ohlin and John Maynard Keynes, 'The Reparation Problem: A Discussion', *The Economic Journal* 39, no. 154 (1929): 172–182; Jacques Rueff, Bertil Ohlin and John Maynard Keynes, 'Mr. Keynes' Views of the Transfer Problem', *The Economic Journal* 39, no. 155 (1929): 388–408.

[26]Gomes, *German Reparations, 1919-1932*, p. 229-32.

[27]Paul Samuelson, 'Bertil Ohlin (1899-1979)', in *Bertil Ohlin: Critical Assessments*, ed. John Wood Cunningham, vol. 1 (London: Routledge, 1994), pp. 109, 112.

[28]Gomes, *German Reparations, 1919-1932*, p. 229-30.

[29]Cited in: ibid., p. 232.

[30]Cited in: ibid., p. 232-3.

[31]Cited in: ibid., p. 233.

alteration of 'instruments of macroeconomic policy without radically altering the hierarchy of goals behind policy'.[32] Political actors in 1921 and in 1924 sought to extract reparations from Germany, but they thought and went about it in different ways. Yet this second-order change took many years. Keynes started lobbying for his view in 1918 and six years later it was reflected in the set of available policy options. In this instance the process of second-order change was much too slow to resolve the questions around agency that Lloyd George and Millerand faced in making the London Schedule. Moreover, Keynes' view of the transfer problem did not prevail due to its analytical merit, but in spite of it. Keynes rallied greater support around his idea, but Ohlin was technically right. This raises the question whether ideas, the category that underpins the notion of policy paradigms, are in fact an adequate unit of analysis for political agency.

From a rationalist perspective it is equally difficult to resolve the questions around agency in the reparations process in 1920/21. The two different reparation amounts in the London Schedule are evidence that political actors and the public reasoned in different ways and reached incompatible conclusions. This dissonance also shaped the distribution of reparations amongst the Allies. While political actors agreed on a measure for reparation claims, they fixed a distribution that contradicted that measure. The analysis of the cognitive artefacts that circulated between political actors and the public will show that there was no shared rationality.

Ernest L. Bogart (1919, 1920), professor of economics in Illinois, calculated the direct and indirect costs of World War I for the Carnegie Endowment for International Peace.[33] Bogart's numbers are still referenced today and they are a starting point for scholars to determine the cost of the Great War, e.g., Stephen Broadberry and Mark Harrison (2005).[34] Bogart defined a country's indirect war

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[32] Hall, 'Policy Paradigms, Social Learning and the State', p. 281-2.

[33] Ernest L. Bogart, *Direct and Indirect Costs of the Great World War*, 2nd ed., Carnegie Endowment for International Peace: Preliminary Economic Studies of the War (New York, NY: Oxford University Press, 1920).

[34] Stephen Broadberry and Mark Harrison, 'The economics of World War I : an overview', chap. 1 in *The Economics of World War I*, ed. Stephen Broadberry and Mark Harrison (Cambridge: Cambridge University Press, 2005), 3–40.

costs as the sum of the capitalised value of war deaths, property losses on land and shipping and cargo losses at sea. This definition corresponds very closely with the reparation categories that the Paris Peace Conference fixed in 1919. The Treaty of Versailles defined a country's entitlement to reparation the sum of military pensions, separation allowances, damages to property and losses at sea. Presumably, from a rationalist perspective, the distribution of reparations would correspond with a country's share of total indirect war costs, but that was not the case. Table 4.2, p. 138, compares the indirect war costs calculated by Bogart, the percentages of total indirect costs according to Bogart and the actual distribution of reparations that actors agreed on, the so-called Spa percentages.

Table 4.2: Comparison of Bogart's indirect costs of World War I with the distribution of German reparations amongst the Allies, the so-called Spa percentages.

	Indirect costs[1]($m)	Share of total[2](%)	Spa percentages (%)
British Empire	9,157	20	22
France	15,271	34	52
Italy	5,526	12	10
Other Allies[3]	15,240	34	16
Total	45,194	100	100

1 Bogart calculated indirect costs of the war as the sum of capitalised value of war deaths, property lost on land and shipping losses.
2 Calculated as a country's indirect costs as share of total indirect costs.
Source: Bogart's figures are taken from Stephen Broadberry and Mark Harrison, 'The economics of World War I : an overview', chap. 1 in *The Economics of World War I*, ed. Stephen Broadberry and Mark Harrison (Cambridge: Cambridge University Press, 2005), 3–40, p. 23.
3 Belgium, Portugal, Japan, Greece, Romania, Bulgaria, South-Slavia/Serbia.

The distribution of reparations between the British Empire, France, Italy and countries summarised under 'other Allies' was fixed on 16 July 1920 in Spa, Belgium. This distribution became known as the Spa percentages and assigned 22% to Britain, 52% to France, 10% to Italy and 16% to other countries. The indirect costs of the British Empire and Italy approximately matched their Spa percentages. The indirect costs of France and the other Allies, however, diverged greatly from their Spa percentages. France's share (52%) was much greater than her share in indirect war costs (34%). The other Allies received a much smaller percentage (16%) than their share in costs (34%). If we accept that Bogart's

figures are reasonably correct and that they correspond with reparation categories, then the distribution of reparations cannot be explained by war damages alone.

4.3 The Spa percentages

4.3.1 Actors and interests

The Spa percentages were a diplomatic compromise that was not primarily related to war damages. The percentages were neither the outcome of a rational calculation nor of a policy paradigm. Nonetheless, the Allies agreed on a distribution of reparations on 16 July 1920. The agreement was publicised in the press the day after, see fig. 4.1, p. 140.

Why was it so important for our actors to fix a distribution of reparations? Millerand, Lloyd George and the Allied representatives on the Reparation Commission believed that the amount of reparations they would obtain from Germany was far less than the war damage and far less than the domestic publics in France or England demanded. Hence the actors had to negotiate a reparation settlement with the German government. And that was only possible once the actors agreed on the distribution of reparation amongst themselves. Whether or not that distribution was proportionate to war damages was secondary. From that perspective we can begin to make sense of France's excessive Spa percentage and the raw deal that the smaller Allied countries received. France had much more bargaining power than countries like Greece, Romania or Portugal. The latter had no other possibility than to accept the Spa percentages and thereby the reparations they would receive as part of an Allied deal with Germany. Millerand arrived at the insight that there would be a negotiated reparation settlement after a drawn-out process. He gradually accepted the limits of Germany's capacity to pay and the limited ability of the Allies to make Germany

REPARATION SHARE-OUT PACT.

An agreement has been reached between Britain, France, Italy, Japan, Belgium, and Portugal to settle the percentages of reparations received from Germany. The final list is as follows:

British Empire... 22 | Japan 0.75
France .... 52 | Belgium 8
Italy .... 10 | Portugal ...... .75

The remaining 6½ per cent. is reserved for Greece, Rumania, South-Slavin, and other Powers entitled to reparation, who have not signed this agreement.

Figure 4.1: CA 1, the Allied agreement on the distribution of reparations that was reached in Spa, Belgium, and published in the *Daily Mail* of 17 July 1920. For the broad public, reparation shares had to reflect absolute war damages. For Lloyd George, Millerand and their financial experts, agreed shares were an expedient for negotiations with Germany that did not have to correspond with war damages.
Source: Daily Mail, 'Reparation Share-Out Pact', *Daily Mail Historical Archive* (London), no. 7574 (July 1920), http : / / find . galegroup . com / dmha / infomark . do ? &source = gale & prodId = DMHA & userGroupName = lse_ttda & tabID = T003 & docPage = article & searchType = BasicSearchForm & docId = EE1862833958 & type = multipage&contentSet=LTO&version=1.0.

pay.[35] Lloyd George and other members of his government consistently wanted low reparations for a host of reasons since the war had ended.

The relevant parties in mid-1920 can be divided into an active and a passive side. The active side consisted of Millerand, Lloyd George, their financial experts on the Reparation Commission and a few other Allied politicians and technocrats, mainly from Belgium. John Bradbury was the British representative on the Commission. Since 1905 he was at the Treasury as the government's chief financial adviser. He was appointed to the Committee on Currency and Foreign Exchanges in January 1918.[36] Louis Dubois was the French representative on the Commission since 19 May 1920. Dubois was member of the Assemblée Nationale since 1910. From 27 November 1919 to 20 January 1920 he was in charge of maritime transport and the merchant marine as France's Minister of Commerce.[37] The initiative of producing and circulating cognitive artefacts lay with these actors. The passive side consisted of the broad public in France and Britain as well as of politicians and experts of smaller Allies like Japan, Portugal or Romania. Italy's government and her experts moved from the active to the passive side half way through the process. Actors on the passive side rejected cognitive artefacts or responded to them, but they could not seize the initiative and make their own modified cognitive artefacts circulate.

4.3.2 'Searching hun pockets'

British views on reparations started to diverge with the end of the war in 1918. Technically, Britain came out of the war as a net creditor. She was owed a total of $11.1bn by other states, but a large part would not be forthcoming.[38] The Russian Bolsheviks refused to honour the debt of $2.5bn that the Czarist regime had accumulated.[39] The French debt was $3bn, but repayment depended on the

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[35]Kent, *The Spoils of War*, pp. 103, 110.

[36]Susan Howson, *Bradbury, John Swanwick, first Baron Bradbury (1872-1950)*, Oxford Dictionary of National Biography, 2004.

[37]Assemblée Nationale, *Dubois, Louis Joseph Marie (1859-1946)*, Base des données des députés français depuis 1789, 2014, http://www.assemblee-nationale.fr/sycomore/index.asp.

[38]Gomes, *German Reparations, 1919-1932*, pp. 5-6.

[39]Kindleberger, *The World in Depression, 1929-1939*, pp. 40-1.

amount of reparations France would receive from Germany. The British position towards reparations derived from her aspirations in the postwar world. The idea was, according to Alan Dobson (1995), to regain the previous position as global power in finance and commerce, which had been challenged by the US throughout the war. To resume that position, Britain did not want to default on her American loans so that she preserved her reputation as good creditor and maintained an intact relationship with the US. Hence the defaults of her own debtors had to be absorbed and balanced through other receipts.[40] These had to come either from taxation or reparation.

Britain's public and government had very moderate reparation demands up until early 1917.[41] Trade and the return to prewar trade patterns were most important. To not disturb these trade patterns, Germany should not be burdened heavily. Further factors for moderation were domestic left-wing groups and the possibility of Allied defeat. There were few in the British Empire that thought differently. An early and lonely voice to demand a large indemnity was Joseph Ward, Finance Minister of New Zealand. In January 1918 Lloyd George spoke of compensation for losses incurred at sea and in the invaded territories, i.e., for physical damage. Still in September 1918, although in martial rhetoric, this position was corroborated by Alfred Harmsworth, Britain's Director of Propaganda and newspaper magnate. He demanded compensation for everything that Germany had 'gorged and stolen, sacked and burnt'.[42]
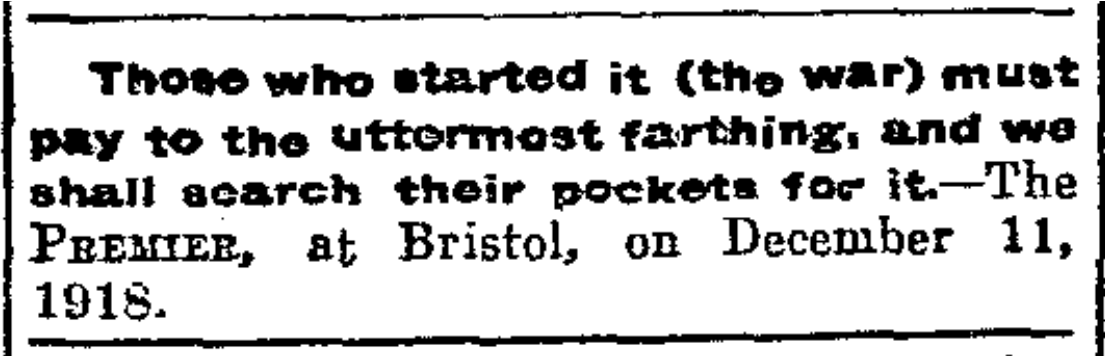
The tide turned as the end of the war approached and the US insisted on the repayment of her loans. The Canadian and Australian governments, just like Britain's, were indebted to the US. In anticipation of increasing taxation, British men of property and their media outlets joined British conservative and nationalist politicians. They claimed that Germany should not just compensate the physical damage she had done, but also pay indemnities, i.e., military pensions. Responding to the public pressure, Lloyd George's government created a committee to investigate Germany's financial capacities. The committee was

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[40]Alan P. Dobson, *Anglo-American Relations in the Twentieth Century* (London: Routledge, 1995), p. 47.

[41]For the detailed development of the British position, see: Kent, *The Spoils of War*, pp. 28-40.

[42]Cited in: ibid., p. 32.

headed by Australia's Prime Minister William Hughes and took the liberty to estimate the total of war damages as well. It concluded that Germany should and could pay a total of £24bn, or £1.2bn annually.[43] Lloyd George and others thought in private that the figure of the Hughes Committee was a 'wild and fantastic chimera'.[44] Closing in on the general elections of 14 December 1918, however, Lloyd George publicly adopted the same stance as the Hughes Committee. On 11 December, at a speech in Bristol, Lloyd George coined one of the battle cries for high reparation demands: 'Those who started [the war] must pay to the uttermost farthing, and we shall search their pockets for it', see fig. 4.2, p. 143.[45]

Figure 4.2: When reporting on the reparations issue, the popular press frequently reiterated Lloyd George's statement from the election campaign in 1918, how he would 'search the pockets' of the Germans.
Source: Daily Mail, '"Search their Pockets"', *Daily Mail Historical Archive* (London), no. 7551 (May 1920), http://find.galegroup.com/dmha/infomark.do?&source= gale&prodId=DMHA&userGroupName=lse_ttda&tabID=T003&docPage=article& searchType=BasicSearchForm&docId=EE1862762224&type=multipage&contentSe t=LTO&version=1.0.

Lloyd George was reelected on his promise to search German pockets. In March 1919 at the Peace Conference he attempted two routes to secure a sum that

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[43]Kent, *The Spoils of War*, pp. 37-8.

[44]Cited in: ibid., p. 40.

[45]Daily Mail, '"Search their Pockets"', *Daily Mail Historical Archive* (London), no. 7551 (May 1920), http://find.galegroup.com/dmha/infomark.do?&source=gale&prodId=DMHA& userGroupName=lse_ttda&tabID=T003&docPage=article&searchType=BasicSearchForm& docId=EE1862762224&type=multipage&contentSet=LTO&version=1.0. Farthing was a quarter of a penny, the smallest coin in circulation. It was abolished in 1960.

would satisfy the public. The first route was to demand 30% of the total that Germany would pay; France should receive 50% and the remaining countries 20%. Louis Loucheur, principal economic adviser of French President Clemenceau, refuted the proposal as he was not willing to fix France's share below 55%, leaving a maximum of 25% to Britain. Lloyd George's second route was to press for the inclusion of allowances for widows and orphans into military pensions. There he succeeded and overcame opposition by admitting categories of civilian damages that were suitable to France. American resistance to the French-British dealings faltered, according to Kent, once Wilson realised that he could argue that detailed reparation categories made the peace agreement more transparent and thereby more just.[46] Thus the Versailles Treaty codified a damage accounting that would yield a high figure.

By mid-1920 the gap between what the British public expected and what the government would deliver had begun to decrease. Financial revisionism was gathering momentum, Keynes had published his *Economic Consequences of the Peace* in late 1919 and what was formerly 'piecemeal criticism' had been given 'force and cohesion' by April 1920.[47] Nonetheless, there was still a significant shortfall. Public expectations in France were as high as ever. Financial revisionism played no role and the reception of Keynes varied 'from indifferent to vitriolic'.[48]

The broad public in Britain in mid-1920 held Lloyd George to his election promise of 1918, fig. 4.2, p. 143. The popular press reiterated the sentence over and over in the years after 1918 and reminded its readership of the Prime Minister's statement. It became a dictum in the call for high reparations and still in 1921 it gave rise to puns like 'unsearched hun pockets'.[49] That is, the election

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[46]Kent, *The Spoils of War*, p. 74.

[47]Ibid., pp. 92-3.

[48]Gomes, *German Reparations, 1919-1932*, pp. 47-50; Kent, *The Spoils of War*, pp. 93-4.

[49]Daily Mail, 'Unsearched Hun Pockets : Taxes Lower than before the War', *Daily Mail Historical Archive* (London), no. 7745 (February 1921), http://find.galegroup.com/dmha/infomark. do?&source=gale&prodId=DMHA&userGroupName=lse_ttda&tabID=T003&docPage= article&searchType=BasicSearchForm&docId=EE1864198283&type=multipage&content Set=LTO&version=1.0. Other examples are Daily Mail, 'Every Hun Penny we Can Get Quickly', *Daily Mail Historical Archive* (London), no. 7136 (February 1919), http://find. galegroup.com/dmha/infomark.do?&source=gale&prodId=DMHA&userGroupName=lse_tt

promise determined one of the rigid features of the cognitive artefacts on reparations.

We have argued in the first case that verbal statements are usually much more ambiguous than cognitive artefacts. How can we reconcile that with the unambiguous force of the catch phrase coined by Lloyd George? When he promised his electorate in Bristol to 'search [German] pockets', he made several qualifying statements, too. The *West Australian*, a newspaper in Perth, reported Lloyd George at Bristol stating that 'as far as Germany's capacity admitted she must pay the cost of the war to the last penny'.[50] This qualification indicates that Lloyd George actually meant to make a nuanced statement when he promised to 'search pockets'. These nuances, however, were lost to the British popular press and the broad public. Against Lloyd George's intentions, his Bristol statement became an unambiguous battle cry for high reparations. Even Lloyd George's sentence in isolation could mean several things, e.g., that Germany had to 'pay to the uttermost farthing' of her capacity, of war damages or of some other measure. The point is that Lloyd George's statement in itself was ambiguous, but it came to be understood in an unambiguous manner to mean high reparations. Because of that dominant interpretation, high reparations were a rigid feature to the public.

4.3.3 Political expedience

Lloyd George, Millerand and their experts saw reparations differently from the broad public. By June 1920 they abandoned the formal procedure of settling reparations through war damage accounting. John Bradbury, the British delegate

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da&tabID=T003&docPage=article&searchType=BasicSearchForm&docId=EE1866490650& type=multipage&contentSet=LTO&version=1.0; Daily Mail, 'We Pay Germany', *Daily Mail Historical Archive* (London), no. 7588 (August 1920), http://find.galegroup.com/dmha/ infomark.do?&source=gale&prodId=DMHA&userGroupName=lse_ttda&tabID=T003& docPage=article&searchType=BasicSearchForm&docId=EE1863072535&type=multipage& contentSet=LTO&version=1.0.

[50]National Library of Australia, The West Australian, 'British Elections: Mr. Lloyd George at Bristol', *National Library of Australia*, December 1918, http://nla.gov.au/nla.news-article 27498958.

on the Reparation Commission, wrote to Austen Chamberlain, Chancellor of the Exchequer, on 2 June:

> [Chairman Dubois, the French Delegate,] was as emphatic as any of us
> [members of the Commission] as to the impossibility of carrying out
> the assessment provisions of the Treaty as it stands by 1st May, 1921,
> and, while he naturally abstained from giving us any precise indication
> of what his own views or the views of his Government are in regard to
> a "lump sum settlement", he accepted without demur the principle
> that the only question of serious importance was to fix the largest
> amount which Germany could afford to pay and the best method of
> making the payment available at the earliest practicable date, and
> that the total amount of damages (which was necessarily vastly in
> excess of such a sum) had little more than academic importance.[51]

Germany's limited ability to pay was a rigid feature to Lloyd George, Millerand and their financial experts. Hence the relevant question to our actors was no longer the total damage of the war, but how to fix the largest amount that Germany could be made to pay as soon as possible. Reparations were not a matter of justice or accounting, but of expedience. Lloyd George had pushed for this approach at the latest since March 1920.[52] Millerand accepted it under reservations as the French government ran out of other options in the first half of 1920.[53] The French general elections of November 1919 had brought a nationalist government to power. At first, this 'strengthened the rhetoric of French reparation policy' and the willingness to coerce Germany into payment.[54] During the occupation of the Ruhr on 6 April 1920, however, the French government conclusively realised that Britain did not back up its approach.[55] Quite the opposite, Britain replied to the French occupation by suspending coal deliveries to France and Lloyd George countered Millerand's call for a joint occupation with

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[51] The National Archives of the UK (hereafter NAUK), Reparation Commission, *T194/273 : Germany's Liability under the Treaty : Views expressed : 1920-1921.*, 28.

[52] Kent, *The Spoils of War*, p. 92.

[53] Ibid., p. 95.

[54] Ibid., p. 89-90.

[55] Gomes, *German Reparations, 1919-1932*, pp. 49.

the 'hitherto unthinkable suggestion' that the German government should be included into the process of determining reparations.[56]

Once Millerand and Lloyd George agreed that Germany should pay the largest amount she could afford, the next step was to agree on a distribution of reparations. The Allies would have to negotiate reparations with Germany, something they could not do if they did not agree amongst themselves who would receive which share. Again Bradbury:

> [Dubois] also concurred very definitely [...] that the most useful first step would be to secure a completion of the arrangement for percentage distribution already arrived at between Great Britain, France, and Serbia by bringing in the other powers entitled to reparation.[57]

To secure reparations from Germany the Allies had to take a joint position. That meant that there could be no quarrelling about who had suffered more damages. Chamberlain thus replied to Bradbury that he was 'in full agreement that the first step is to get the Allies' percentages settled'.[58]

4.4 Stabilising the Spa percentages

To the broad public in Britain, France and other Allied countries, Germany's compensation for total war damages was a rigid feature. To these publics, the distribution of reparations was stabilised by the relative war damages that countries had suffered. To Lloyd George, Millerand and their financial experts, Germany's capacity to pay was a rigid feature and her actual payments were flexible. To them, the distribution was stabilised by the necessity to have a distribution, so that any payments at all could be extracted from Germany. The British and French publics considered other features as rigid, flexible and stabilising than our political actors. How did Lloyd George, Millerand and the

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[56]Kent, *The Spoils of War*, p. 92.
[57]NAUK, Reparation Commission, *T194/273*.
[58]NAUK, ibid.

experts resolve this contradiction? How did they succeed in stabilising the Spa percentages nonetheless? They did so by producing and circulating different cognitive artefacts for the public and the diplomatic spheres.

4.4.1 In the public sphere

Lloyd George, Millerand and other Allied politicians formally agreed on the Spa percentages on 16 July 1920 and a day later the numbers were in the press, see fig. 4.1, p. 140. Prior to their agreement, on 2 July 1920, the *Times* published an article on 'France's Account For Reparation'.[59] It reported French-British negotiations over a reparations split of 55% to 25%, see fig. 4.3a, p. 149. This was followed by a detailed description of the items on the French reparation account, see fig. 4.3b, p. 149. The *Times* reported that France had suffered industrial damages of 7,260,269,456 francs and non-industrial damages of 54,774,000,000 francs. Damages for the Department du Nord, the region most affected by the war, were at 3,700,000,000. The damage in agriculture was given as 16,249,000,000; hunting and fishing 88,000,000; agricultural water-power 46,000,000; woods and forests 1,400,000,000; railways of general importance 468,000,000; canals 276,000,000; maritime ports 78,000,000; roads and bridges 1,218,000,000; posts, telegraphs and telephones 295,000,000; taxes and war contributions 2,500,000,000. French war damages totalled at 248bn francs.[60]

The French damage estimate published in the *Times* amounted to £5.2bn. It was compiled and distributed to the press by Louis Dubois, France's delegate on the Reparation Commission. Dubois agreed with Millerand, Lloyd George and the Reparation Commission that an accounting of damages was practically impossible and that it had no consequence for the amount Germany would actually pay. To the English and French publics, however, the actors presented the distribution of

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[59]The Times, 'France's Account For Reparation', *The Times Digital Archive* (London), no. 42452 (July 1920), http://find.galegroup.com/ttda/infomark.do?&source=gale&prodId=TTDA& userGroupName=lse_ttda&tabID=T003&docPage=article&searchType=BasicSearchForm& docId=CS184880866&type=multipage&contentSet=LTO&version=1.0. Conversion rate is 48 francs in one pound, as used in the article.
[60]Ibid.

percentage of 55 t 25

(a)

Some of the principal items of this formidable and pathetic tally of the ruin and wilful damage done to the richest provinces of France are published to-night for the first time by the *Liberté*. At pre-war value the estimates of M. Dubois, which are on the basis of paper francs, find that the total figures of industrial damages amount to 7,260,269,456f. [at 48f., £151,255,613] and for non-industrial damages, 54,774,000,000f.

The Department du Nord in industrial damages easily leads the field, having suffered in its three sectors more than 3,700,000,000f. The damages to agriculture are 16,249,000,000f. ; hunting and fishing, 88,000,000f. ; agricultural water-power, 46,000,000f. ; woods and forests, 1,400,000,000f. ; railways of general importance, 3,156,000,000f. ; railways of local importance, 468,000,000f. ; canals, 276,000,000f. ; maritime ports, 78,000,000f. ; roads and bridges, 1,218,000,000f. ; posts, telegraphs, and telephones, 295,000,000f. ; taxes and war contributions, 2,500,000,000f.

(b)

Figure 4.3: CA 2, *Times* article on 'France's Account For Reparation', 2 July 1920. The article begins with the French-British agreement to split reparations 55% to 25%, (a). These percentages were presented in conjunction with a detailed French damage account that totals at 248bn francs, (b). The distributional agreement was necessary for Allied politicians to take a joint position towards Germany and extract reparations. The damage figures were produced by Louis Dubois, the Principal French Member on the Reparation Commission, to frame the distributional agreement as if it satisfied the publics desire for high reparations. In private, Dubois knew that a complete damage accounting was practically impossible, that it would yield an infeasible total and that reparations from Germany would be much less.

Source: The Times, 'France's Account For Reparation', *The Times Digital Archive* (London), no. 42452 (July 1920), http://find.galegroup.com/ttda/infomark.do?&source=gale&prodId=TTDA&userGroupName=lse_ttda&tabID=T003&docPage=article&searchType=BasicSearchForm&docId=CS184880866&type=multipage&contentSet=LTO&version=1.0, p. 11.

reparations along with an extensive and detailed discussion of French war damages.[61] That is, they presented the distribution as if it was derived from war damages.

For the English and French publics our actors produced a numerical artefact in which war damages stabilised the distribution of reparations between the Allies. After summer 1920 newspapers often used the Spa percentages to calculate national shares from various reparation totals that cropped up in the discussion.[62] All numbers of the cognitive artefact were provisional in the sense that neither percentages nor damages were fixed on 2 July, at the time of publication in the *Times*. Moreover, the damage figure of Dubois was a false number. Dubois intentionally inflated the figure to preserve the public's illusion that reparations would match war damages. Only a week earlier our actors had publicised a reparations proposal in which Germany should pay a total of £5.25bn, to which the *Daily Mail* had responded that the Allies were 'letting off the huns'.[63] French officials produced another damage account a few months later that was not made public. It amounted only to half the amount that Dubois circulated in the *Times*.[64]

Lampland identifies false numbers as place holders in situations in which mastering 'the logic of formal procedures' is more important than the 'accuracy of the numerical sign'.[65] False numbers allow 'learning to rationalise'.[66] The false damage number of Dubois enabled rationalisation in a different way. It aligned the British and French publics to the position of Lloyd George, Millerand and

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[61]In France, the estimate of Dubois was published on 1 July in *La Liberté*.

[62]An example is Daily Mail, 'If Germany Pays £11,300,000,000.', *Daily Mail Historical Archive* (London), no. 7741 (January 1921), http://find.galegroup.com/dmha/infomark.do?&source= gale&prodId=DMHA&userGroupName=lse_ttda&tabID=T003&docPage=article&searchTy pe=BasicSearchForm&docId=EE1863470802&type=multipage&contentSet=LTO&version= 1.0.

[63]The total of £5.25bn consisted of 35 annuities of £150m. Daily Mail, 'Letting off the Huns', *Daily Mail Historical Archive* (London), no. 7553 (June 1920), http://find.galegroup.com/ dmha / infomark . do ? &source = gale & prodId = DMHA & userGroupName = lse_ttda & tabID = T003 & docPage = article & searchType = BasicSearchForm & docId = EE1863677259 & type = multipage&contentSet=LTO&version=1.0.

[64]NAUK, Reparation Commission, *T194/007 : Bradbury papers*, 1921.

[65]Lampland, 'False numbers as formalizing practices', p. 378.

[66]Ibid., p. 395.

their experts. By being false, the damage number stabilised the distribution of reparations in the public.

4.4.2 In the diplomatic sphere

The Reparation Commission had two main tasks in the negotiations with Germany. It should determine Germany's capacity to pay and compile a sound, minimal Allied damage figure that could not easily be challenged.[67] Hence on 7 October 1920 the Reparation Commission sent a request to all governments that intended to claim reparations. They were asked to submit minimal estimates of their total damage by 1 November. The Commission specified that estimates should be based on quantities and 1914 unit prices and be compiled under four headings: military pensions, separation allowances, damages to property and losses at sea. Once thorough investigations were completed, the Commission promised, estimates could be revised upwards. The Commission sent an additional request to the governments of France, Italy, Belgium and the British Empire. They were asked to submit an estimate as exact 'as possible [with] a complete statement of the methods employed' for certain damage categories. France and Belgium should provide an exact estimate for pensions and damages to property, Italy for separation allowances and the British Empire for losses at sea. The Commission assured that it would 'examine the methods employed [...] and consider the possibility of adopting' them for the estimation of damages of 'other Powers' under the same category.[68] By late February 1921 the Commission received damage estimates that amounted to 213.09bn gold marks.[69] The Commission compiled and processed the claims so that they could be used in negotiations with the German government, see fig. 4.4, p. 152. In doing so, the Commission produced a cognitive artefact that stabilised the Spa percentages in the diplomatic sphere towards all Allied governments.

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[67]NAUK, Reparation Commission, *T194/072*, 1920.
[68]NAUK, Reparation Commission, *T194/071 : Estimation of Damages*, 1920.
[69]NAUK, Reparation Commission, *T194/7*.

Comparison of actual claims with distribution of 176 milliard gold marks according to percentages of Spa Agreement.

	Spa Percentage.	Share of 176 milliards on basis of Spa percentage	Amount of Claim.	More (+) or less (−) than Spa percentage Share of 176 milliards.
France	52	91.5	88.0	− 3.5
British Empire	22	38.5	43.5	+ 5
Belgium	8	14	12.8	− 1.2
Italy	10	18	28.9	+10.9
Japan	.75	1.2	1.74	+ .54
Portugal	.75	1.2	.8	− .4
Serbia	+ 5	9	11.5	+ 2.5
Greece	+ .4	.7	3.8	+ 3.1
Roumania	+ 1	1.7	22.0	+ 20.3
Miscellaneous	+ .1	.2	.05	− .15
	100	176	213.09	+ 37.09

✱ This sum is arrived at by taking the aggregate amount of the French British and Belgian claims and assuming that the other claims (which have been prepared on a much less reasonable basis) are reduced to an amount equal to 18/82nds of the amount.

+ Suggested

Figure 4.4: CA 3, compilation of Allied damage claims by the Reparation Commission, 23 February 1921. The Commission recalculated national claims and shares to reconcile them with the agreed Spa percentages and to extend the percentage agreement for all claimant countries. *Source:* Author's additions to: NAUK, Reparation Commission, *T194/007 : Bradbury papers*, 1921.

At first, outlined in red on fig. 4.4, p. 152, the Commission rejected all estimates except those of France, the British Empire and Belgium. It argued that the estimates of Italy, Japan, Portugal, Serbia, Greece, Romania and 'miscellaneous' countries were not based on sound methods. The Italian claim on separation allowances was flawed, the Commission argued, because it made no distinction between losses before and after the beginning of belligerency with Germany. The Commission found, however, that an adjustment of the timing based on the date of the declaration of war would reduce the Italian claim from 28.9bn to 18.6bn gold marks. Romania's claim of 22bn was regarded as 'wholly fantastic'.[70]

In the second step (green), the Commission calculated a 'proper' total from the damage claims that it considered to be valid, i.e., the claims of France, the British Empire and Belgium. The Commission equated the sum of these claims with the sum of French, British and Belgian Spa percentages, i.e., 144.3bn gold marks equalled 82%. The proper total of claims were consequently 100% or 176bn gold marks.[71]. These claims were notably restrained in comparison to the numbers that had been circulated in public before. France submitted a claim of 88bn gold marks to the Reparation Commission, approximately 133bn francs, which was about half of the 248bn francs Dubois estimated in summer 1920.[72]

The third step (blue) of the Commission was to suggest percentages for those countries that had not signed the Spa agreement and whose damage estimates it rejected, i.e., Serbia, Greece, Romania and miscellaneous other countries. Fourth and last (orange), the Commission derived new damage estimates for all countries from the Spa percentages and the proper total. Hence France's proper claim were 52% of 176bn gold marks, i.e., 91.5bn, Italy's were 10% of 176bn, i.e., 18bn etc.[73]

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[70]NAUK, Reparation Commission, *T194/7*, Bradbury to Chamberlain, 23/2/1921.

[71]NAUK, ibid.

[72]The conversion rates used here are the same that John Bradbury used at the Reparation Commission in late February 1921. 2 francs were 1 gold mark for pensions, 1.3 francs for separation allowances and 3 francs for remaining items. NAUK, ibid.

[73]The Commission rounded new claims for France, the British Empire, Belgium, Italy and Serbia to 0.5.

What were the politics behind the submitted claims and the recalculation of the Reparation Commission? Regarding the first aspect we can observe that those countries that had signed the Spa agreement submitted very restrained claims compared to those that had not signed the Spa agreement. Presumably, the Spa signatories had accepted the premise of Lloyd George, Millerand and their experts: the total of reparations would not depend on the amount the Allies claimed, but on the amount they would be able to extract jointly from Germany. Hence the Spa signatories had an incentive to stabilise the agreed percentages by submitting conservative and sound estimates. The non-signatories, in comparison, had realised by the end of 1920 that they would only receive reparations as part of the joint Allied deal with Germany. That is, their reparations would come out of the 6.5% of the total that had been reserved for them in Spa on 16 July 1920. Hence Serbia, Greece and Romania had an incentive to submit large claims.

The delegates of France, Britain and Belgium at the Reparation Commission formed an alliance to stabilise the Spa percentages for all claimant countries. The Commission rejected Italy's claim, based on the starting date that Italian experts used to calculate damages. That date had been a controversial issue before. Italy wanted to claim reparations from the time before she had officially entered the war. The others thought that Italy could only claim reparations from her official war entry date onwards. Fittingly, when the Reparation Commission calculated the actual Italian claim with the Italian date of war entry, it yielded 18.6bn gold marks.[74] That made it almost equal to the Italian claim of 18bn gold marks that the Commission calculated via Italy's Spa percentages and the proper total. Thus the Commission could argue that four methodologically sound estimates and 92% of reparations (the sum of France, Britain, Belgium and Italy) stabilised the Spa percentages.

In February 1921 the Reparation Commission produced and circulated a numerical artefact to stabilise the Spa percentages amongst politicians and experts of all countries that claimed reparations, fig. 4.4, p. 152. That artefact had rigid, flexible and provisional features. Spa percentages were rigid to the Commission. The damage estimates were generally treated as flexible, but some

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[74]NAUK, Reparation Commission, *T194/7*, p. 43.

claims were more flexible to the Commission than others. It completely rejected the Romanian or Greek claim, while it used the French, British and Belgian claims to calculate the proper total of 176bn gold marks. The proper total and the amount that countries would receive were treated as provisional. At the time when the Commission produced the numerical artefact, in February 1921, countries could still update their claims. So an updated French, Belgian or British claim would yield a new proper total. Furthermore, the question of Germany's capacity to pay was unresolved, making the absolute amount a country would receive provisional, too.

Which features stabilised the numerical artefact that the Reparation Commission produced for the diplomatic sphere? Fig. 4.5, p. 156, shows the relations between stabilising and stabilised numbers. Overall, the Spa percentages of July 1920 did most of the work. The percentages of France, Britain, Belgium and Italy (outlined in dark orange in fig. 4.5, p. 156) stabilised the proper total. The Commission calculated the proper total of 176bn gold marks by equating the sum of the French, British and Belgian claims (144.3bn gold marks) with the sum of their Spa percentages (82%). The Commission furthermore argued that the adjusted Italian claim yielded the same amount as Italy's Spa percentage (10%) of the proper total. The proper total was stabilised as well by the claims of France, Britain and Belgium (green). Furthermore, the sum of the Spa percentages stabilised the percentages of non-signatories (blue). The Spa agreement settled the distribution of 93.5% of reparations, accordingly the Commission proposed shares for Serbia, Greece, Romania and 'miscellaneous' countries that amounted to 6.5%. Finally, a country's percentage stabilised the amount of reparations it would receive (red).

The calculations of the Reparation Commission aligned actual Allied reparation claims with the Spa percentages. French, British and Belgian delegates on the Commission completed and stabilised the Spa percentages as a distributional agreement for all claimant countries. Consequently, the Allies could negotiate with the German government on the basis of a consistent claim and a minimal damage estimate. That strengthened the Allied position.

Figure 4.5: Several numbers stabilised each other in this numerical artefact of the Reparation Commission.
Source: Author's additions to: NAUK, Reparation Commission, *T194/007 : Bradbury papers*, 1921.

In the previous cases I have discussed cognitive artefacts as a means for actors to scope out and specify their agency. In this case I have argued that two different numerical artefacts were produced for two different spheres to stabilise one set of numbers: the Spa percentages. This gives us further insight into a complex to which we have pointed before, the legitimisation of agency via cognitive artefacts. We have seen that producing and circulating different cognitive artefacts to different audiences is a strategy for actors to gain legitimacy. One possible outcome of this strategy is that we end up with cognitive artefacts that contradict each other, despite being produced by one and the same actor or group of actors. The numerical artefact for the public sphere had a different damage total than the numerical artefact for the diplomatic sphere. Lloyd George, Millerand and their experts tried to manage that inconsistency by limiting the circulation of the diplomatic numerical artefact.

It could be argued that the Spa percentages eventually allowed the various fractions to collaborate in spite of their diverging views. Once the Spa percentages were stabilised in all spheres, Lloyd George, Millerand and their experts could negotiate with the German government with the approval of the British and French publics and without disruption from the minor Allies. Does that mean that the Spa percentages, once they were stabilised, were a boundary object? I have two reasons to argue that that they were not. The first reason is historical. When the Allies began direct negotiations with Germany, in July 1920, there were still countries entitled to reparations that had not signed the Spa agreement, e.g., Greece or Romania. Moreover, the Italian government wanted to unbundle the Spa percentages again and the French government negotiated directly with Germany throughout 1920, speculating to supersede a joint Allied agreement with a better bilateral deal. Hence the Spa percentages might have been stable, and in retrospect we know that they were long-lived, too, but they were probably never uncontested.[75] The second reason is systematic. Star and Griesemer maintain that boundary objects are 'not engineered [...] by any one individual or group', but that they emerge as 'groups from different worlds work'

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[75]The Spa percentages were valid from July 1920 to June 1929, longer than any of the reparation schemes. In June 1929 the Young Plan reduced the British share by 2.4%, see Gomes, *German Reparations, 1919-1932*, p. 172.

together.[76] The Spa percentages, however, clearly were engineered by Lloyd George, Millerand and their experts. Moreover, the Spa percentages did not emerge from cooperation, but made greater cooperation possible.

The historical events that followed the stabilisation of the Spa percentages in 1920/21 indicate where the boundaries of the strategy lie, with which our actors legitimised their agency. In 1920/21 the reparation total in the public artefact, were approximately 260bn gold marks, about 1.5 times greater than in the diplomatic artefact (176bn gold marks).[77] In May 1921 in the London Schedule of Payments, the public reparation figure (132bn gold marks) was about 2.5 times greater than the diplomatic figure (50bn gold marks). Producing and circulating numerical artefacts to dedicated audiences was not enough for Lloyd George and Millerand to legitimise their reparation settlement. They could not create one reparation total that was valid in the public and the diplomatic sphere. The same problem is evident in from the reaction of the German government to the London Schedule. The cabinet under Constantin Fehrenbach refused to sign the London Schedule and stepped down instead. Fehrenbach and his government and the German public rejected the Schedule because they responded to the excessive public reparations figure, not to the moderate diplomatic figure.

4.5 Analytical conclusions: Themes from the case

Between mid-1920 and early 1921 a group of political actors around Lloyd George and Millerand used numerical artefacts to stabilise the distribution of German reparations between the Allies. That distribution, the so-called Spa percentages, was a political expedient that followed neither from a rational calculation of reparation entitlements nor from a policy paradigm. In stabilising the Spa percentages, these actors tried to legitimise their agency in the reparations process.

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[76]Star and Griesemer, 'Boundary Objects', p. 408.

[77]The total of 260bn gold marks is calculated via France's share of 52% and the French claim of 133bn gold marks from July 1920.

To legitimise their actions, the group of actors produced and circulated numerical artefacts to dedicated audiences before and after formally agreeing on the Spa percentages. The cognitive artefacts that circulated in different spheres contradicted each other. This constellation gives us further insight into the production and circulation of cognitive artefacts. To legitimise their agency in front of the English and French public, actors produced a numerical artefact with a false reparations number. Unlike in Lampland's systematic, that false number was not a place holder in a process of 'learning to rationalise'.[78] The number necessarily had to be a false, so that it stabilised the Spa percentages in the public sphere. Consequently, the circulation of the cognitive artefact produced for the other Allies had to be limited to the diplomatic sphere. Going forward, we may pursue that issue more generally and in the analytical terminology of Howlett and Morgan. How are actors managing the 'travels' of cognitive artefacts to legitimise agency?[79]

The Spa percentages, once they were stabilised in the public and the diplomatic spheres, were a cognitive artefact that enabled Allied political actors to negotiate with the German government over reparations. That is, the Spa percentages were a cognitive artefact that to some extent enabled cooperation. Unlike a boundary object, however, the Spa percentages did not emerge from cooperation.[80] They were engineered to enable cooperation. Hence cognitive artefacts might have a function similar to boundary objects without being boundary objects.

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[78]Lampland, 'False numbers as formalizing practices', p. 395.
[79]Howlett and Morgan, *How Well do Facts Travel?*
[80]Star and Griesemer, 'Boundary Objects', p. 408.

5 European recovery and German industry after World War II

Contents

5.1 Introduction

The relationship between Germany's and Europe's economic recovery after World War II is a staple fact in Economic History. To name only a few, Barry Eichengreen and Andrea Boltho (2010) find a 'key precondition for European

economic growth' in the unrestrained production of Germany's capital goods industry.[1] Helge Berger and Albrecht Ritschl (1995) argue that a major element of postwar recovery was the successful reinstatement of 'intra-European division of labor with West Germany as its locational and industrial centre'.[2] According to Alan Milward (1992), Germany was at the heart of the postwar intra-European trade boom.[3]

The American position on Germany was crucial to the course of her postwar economy and therefore to Europe. At the end of the war, however, two competing views co-existed in the American administration and in the American public. One side wanted to significantly reduce Germany's industry. Their catchphrase was the Morgenthau Plan, the conversion of Germany into an agrarian economy. The other side wanted to preserve industry and the German economy to resume its central role in Europe. In hindsight it is evident that the pro-industry fraction prevailed.

This chapter investigates how actors in the American military administration of Germany used and managed cognitive artefacts to shape Washington's political space of agency. The main focus is not on the internal structure of cognitive artefacts, but on the production of cognitive artefacts and their circulation or 'travels'.[4] The two opposing views on the postwar role of Germany's economy were also present in the military administration. The individuals at the centre of the pro-industry fraction were Lucius D. Clay, the Deputy Military Governor, and William H. Draper, Director of the Economics Division. Administrative units in the pro-industry fraction were the Industry Division, the Food & Agriculture Division and others. The key actors of the anti-industry camp were Bernard Bernstein and the Finance Division.

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[1] Barry Eichengreen and Andrea Boltho, 'The economic impact of European integration', chap. 11 in *The Cambridge Economic History of Modern Europe: 1870 to the Present*, ed. Stephen Broadberry and Kevin H. O'Rourke, vol. 2 (Cambridge: Cambridge University Press, 2010), p. 280.

[2] Helge Berger and Albrecht Ritschl, 'Germany and the Political Economy of the Marshall Plan, 1947-52: A Re-Revisionist View', chap. 8 in *Europe's Post-War Recovery*, ed. Barry Eichengreen (Cambridge: Cambridge University Press, 1995), p. 200.

[3] Alan S. Milward, *The Reconstruction of Western Europe, 1945-51* (London: Routledge, 1992), p. 275.

[4] Howlett and Morgan, *How Well do Facts Travel?*

I argue that the pro-industry fraction prevailed because it gained significant advantages at producing cognitive artefacts and at making them 'travel well'.[5] First, I reconstruct the changing general conditions for the production and travels of cognitive artefacts between mid-1945 and early 1946. I then gauge the impact these changing conditions had on three key aspects in the reactivation of Germany's industry. The first aspect is the contemporary controversy over German industry as a threat to peace. The second aspect is the discussion over the population's food supply. The third aspect is the reasoning that legitimised reactivating Germany's industry in 1947. This became an explicit goal of US occupation policy once the view prevailed that Germany's industrial activity did not threaten international security and that it should be used to pay for vital food imports. I investigate a range of objects that relate to these three aspects. Not all objects qualify as cognitive artefacts though. These objects are periodical and non-recurring reports as well as images that contain or 'package' cognitive artefacts, see table 5.1, p. 162.[6]

Table 5.1: Objects and cognitive artefacts on Germany's postwar economy

No.	Date	Actor[1]	Description
1a	8/9 1945	AI/PI	OMGUS reports to Washington on IG Farben
1b	12.11.1945	PI	Showcased blasting of IG Farben plant
1c	6.12.1945	PI	Universal Newsreel of IG Farben blasting
2a	8/9 1945	AI/PI	OMGUS reports to Washington on food situation
2b	12/1 1945/46	PI	Statistics on production of agricultural machinery
2c	Mar. 1946	PI	Graph on production of agricultural implements
3	Mar. 1947	HH	Report: *German exports for recovery of Europe*

[1] Denominates the political fraction or entity from which the artefacts originated: AI=Anti-industry camp within OMGUS, the American military administration of Germany; PI=Pro-industry camp of OMGUS; HH=Herbert Hoover.

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[5] Howlett and Morgan, *How Well do Facts Travel?*
[6] Morgan, 'Travelling Facts', pp. 28-9.

5.2 Literature review

5.2.1 Historical literature

The formulation of American occupation policy in 1945 was dominated by security concerns that implied a negative stance towards German industry. At its centre were the US Treasury and its Secretary Henry Morgenthau. He argued that safeguarding peace required the physical reduction of Germany's economic capacity, in particular her heavy and armaments industry.[7] Accordingly, JCS 1067, the directive of the Joint Chiefs of Staff that governed the American occupation from April 1945 to July 1947, took a hard line. It provided that the military government should take no action to revive the German economy.

The restrictive language of JCS 1067 was not consistently interpreted by the American occupation administration on the ground. Some elements of OMGUS, the Office of the Military Government for Germany, United States, flagrantly violated the policy. Some adapted it to the pragmatic requirements of governing a war-torn territory. Others interpreted JCS 1067 as an opportunity to drive home moral lessons to the Nazi population.[8]

John Gimbel (1968) recognises that stated policy and the military administration's objectives and actions diverged, in particular during the first months of the occupation. He accounts for this in two ways. First, he invokes the compassion of Americans when they witnessed destroyed Germany. According to Gimbel, journalists thought that Berlin was 'more like the face of the moon than any city'; Truman was depressed when seeing its inhabitants 'wandering aimlessly' amongst the ruins; Germany's towns 'smelled of death and destruction'

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[7]Wilfried Mausbach, 'Restructuring and Support: Beginnings of American Economic Policy in Occupied Germany', in *The United States and Germany in the Era of the Cold War, 1945-1990*, ed. Detlef Junker, vol. 1 (Cambridge: German Historical Institute and Cambridge University Press, 2004), pp. 278-9.

[8]Karl-Heinz Roth (1986) tells the story of an OMGUS officer who was a manager of General Motors in his civilian life. He lost his position in OMGUS when he tried to salvage the capital assets of GM's German subsidiary Opel; OMGUS and Karl Heinz Roth, *OMGUS - Ermittlungen gegen die I.G. Farbenindustrie AG, September 1945*, Die Andere Bibliothek (Nördlingen: Franz Greno, 1986).

etc.[9] Second, Gimbel refers to the logistical challenges of setting up a new government and the degrees of freedom that were necessary to do so. To Gimbel, Lucius D. Clay was a 'brilliant' Deputy Military Governor who started out in a 'chaotic administrative situation', which required 'fundamental changes in organisation, command structure and administration'.[10]

Harold Zink (1957) explains the inconsistent application of JCS 1067 by pointing to the weight that different elements had within OMGUS. He remarks that the Economics Division was in a strong position and that it adopted a pragmatic view of the directive. Moreover, Zink explains that it was common for a functionary like Clay to enjoy considerable leeway in interpreting his directives from Washington.[11]

Other historians, usually associated with the political left, see JCS 1067 as a smoke screen. Scholars like Jürgen Kuczynski (1948) argue that industrial ownership structures of the Third Reich were instantaneously restored in the American zone. The 'monopolists and trust lords' of the German economy had disappeared between May and July 1945, according to Kuczynski, but were back in the western zones by the end of the summer.[12] Karl-Heinz Roth (1986) argues in this tradition in his analysis of OMGUS and Germany's chemicals giant IG Farben. More broadly, there is a consensus that American efforts at denazification generally failed.[13]

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[9]John Gimbel, *The American Occupation of Germany : Politics and Military, 1945-1949* (Stanford, CA: Stanford University Press, 1968), p. 6.

[10]Ibid., pp. 46-7.

[11]Harold Zink, *The United States in Germany, 1944-1955* (Princeton, NJ: van Nostrand, 1957), pp. 26, 31-3.

[12]Jürgen Kuczynski, *Die Bewegung der deutschen Wirtschaft von 1800 bis 1946: 16 Vorlesungen* (Meisenheim am Glan: Westkulturverlag Anton Hain, 1948), p. 191. See also: Ernst-Ulrich Huster, *Determinanten der westdeutschen Restauration: 1945-1949* (Frankfurt am Main: Suhrkamp, 1972).

[13]Ralf Ahrens, 'Von der Säuberung zum Generalpardon: Die Entnazifizierung der westdeutschen Wirtschaft', *Jahrbuch für Wirtschaftsgeschichte / Economic History Yearbook* 51, no. 2 (2010): p. 25.

5.2.2 Literature on artefacts

While Economic History has paid much attention to Germany's and Europe's reconstruction after World War II, it has largely ignored the question where the numbers come from on which its narratives of reconstruction build. Alan Milward (1992) draws attention to the matter and remarks that there is an 'abundance of dubiously accurate statistics produced by governments and international organisations' on which historians overly rely, without knowing the exact source or origin.[14]

It is generally agreed that there was no *zero hour* for Germany in 1945. There were a great deal of individual and social continuities as well as administrative and political lines of development that ran from the Nazi era into the West German Federal Republic and the East German Democratic Republic.[15] That is true for the numerical artefacts on Germany's economy, too. Adam Tooze (2001, 2006, 2008) covers the issue of Germany's economic statistics for the late Kaiserreich, the Weimar Republic and the Third Reich, but stops sharp with the end of the Nazi regime in mid-1945.[16] He does point out, however, that there are colourful biographies and careers, such as that of Ernst Wagemann, that straddled the historical ruptures of the German state.[17]

Earl Ziemke (1975) discusses activities of the US Army in mid-1945 that were related to the administrative body of the dying Reich and the occupation forces that would take its place. He comments on a facility called the Ministerial Collecting Center (MCC). It was located near Kassel and gathered 'fragments' of Germany's government as they were discovered in the field. Ziemke does not investigate possible connections between the MCC, its holdings and what

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[14]Milward, *The Reconstruction of Western Europe, 1945-51*, p. xiii.

[15]Wolfgang Benz, 'Deutschland unter alliierter Besatzung, 1945-1949', chap. 1 in *Gebhardt: Handbuch der deutschen Geschichte*, 10th ed., ed. Wolfgang Reinhard, Jürgen Kocka and Wolfgang Benz, vol. 22 (Stuttgart: Klett-Cotta, 2009), p. 39.

[16]Adam Tooze, *Statistics and the German State 1900-1945: The Making of Modern Economic Knowledge*, Cambridge Studies in Modern Economic History (New York, NY: Cambridge University Press, 2001); Tooze, *The Wages of Destruction*; Adam Tooze, 'Trouble with Numbers: Statistics, Politics, and History in the Construction of Weimar's Trade Balance, 1918-1924', *The American Historical Review* 113, no. 3 (2008): 678–700.

[17]Tooze, *Statistics and the German State 1900-1945*, p. 283ff.

OMGUS made of them. Instead, he offers somewhat blanket judgements on the general difficulty of controlling a large, foreign country and coordinating different actors.[18]

Werner Abelshauser (1975) comments on the origins of postwar Germany's economic statistics.[19] Abelshauser points to the links and spillovers between the administration of the Third Reich and those of the occupying powers. He argues that their preconditions for recording economic data were 'quite favourable', despite zonal boundaries, the dispersal of the Reich's Statistical Office all over Germany and the resultant loss of data and structures. The American and British administrators of the MCC formed a Statistics Section from the fragments of the Reich's Statistical Office. OMGUS furthermore created a Statistical Office of German Industries in Bad Nauheim, building on the Reich's Industrial Reporting Division.[20]

For a while, Bad Nauheim was the workplace of several would-be important economists of the 20th century: John K. Galbraith, Burton H. Klein, Nicholas Kaldor, E.F. Schumacher, Paul A. Baran, Edward Denison and Jürgen Kuczynski. They were expected to document the contribution of the US Air Force to Allied victory. These economists had access to the records of the Reich's Statistical Office and studied the effect of the bombing campaigns, but also the economics of the German war effort more generally.[21] Galbraith's memories (1981) on his time as Head of the Statistical Office in Bad Nauheim provide some insight into the process of unlocking German statistics, in which German personnel were apparently quite helpful; they give no indication though of the ways in which these resources were used going forward.[22] Roth (1986) takes an

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[18]Earl F. Ziemke, *The U.S. Army in the Occupation of Germany, 1944-1946*, Matloff, Maurice (Washington, D.C.: Center for Military History, United States Army, 1975), p. 315.

[19]Werner Abelshauser, *Wirtschaft in Westdeutschland 1945 - 1948: Rekonstruktion und Wachstumsbedingungen in der amerikanischen und britischen Zone*, Schriftenreihe der Vierteljahreshefte für Zeitgeschichte (Stuttgart: Deutsche Verlags-Anstalt, 1975).

[20]ibid., pp. 32-3, incl. footnotes.

[21]Werner Abelshauser, 'Germany: guns, butter, and economic miracles', chap. 4 in *The Economics of World War II: Six Great Powers in International Comparison*, ed. Mark Harrison, Studies in Macroeconomic History (Cambridge: Cambridge University Press, 1998), 122–176, p. 122.

[22]John Kenneth Galbraith, *Leben in entscheidender Zeit: Memoiren* (München: Bertelsmann, 1981), pp. 198-228.

extreme stance on the importance and functionality of these institutions and maintains that OMGUS 'held the Nazi economy's entire unaltered administrative apparatus in its hand'.[23]

It is consensus that there were broad continuities in personnel and resources between the administrations of the Third Reich and the American occupation. On economic data specifically there are strong indicators for spillovers and linkages. For some reason though this knowledge has remained disconnected from the administrative history of OMGUS by Christoph Weisz (ed., 1994).[24] Werner Henke and Klaus Oldenhage (1994) chart the evolution of OMGUS in great detail. They also touch upon political ramifications such as the reorganisations of OMGUS in late 1945 and early 1946. Similar to Gimbel, however, Henke and Oldenhage report these structural changes as quasi neutral organisational developments. They explain appointments of key personnel through personal friendship, predilections and factual considerations. They thereby miss out on the consequences the evolution of OMGUS had for the production and the travels of cognitive artefacts on Germany's postwar economy.[25]

5.3 The American military administration and cognitive artefacts

5.3.1 Actors and audiences

The notion that Europe's recovery had to go hand in hand with Germany's was fairly common in the US administration during the war. The fraction that was in favour of protecting Germany's industry was strongest in the War Department and the US Army. Their focus was on the economics of Germany's role as Europe's capital goods supplier. She had played that role before the war and

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[23]OMGUS and Roth, *OMGUS - Ermittlungen gegen I.G. Farben*, p. xxvii.

[24]Christoph Weisz, ed., *OMGUS-Handbuch: Die amerikanische Militärregierung in Deutschland 1945-1949*, Quellen und Darstellungen zur Zeitgeschichte (München: R. Oldenbourg, 1994).

[25]Josef Henke and Klaus Oldenhage, 'Office of Military Government for Germany (US)', chap. 1 in *OMGUS-Handbuch: Die amerikanische Militärregierung in Deutschland 1945-1949*, ed. Christoph Weisz (München: Oldenbourg, 1994), pp. 15-23, 28, 30.

should do so also in postwar reconstruction. Accordingly, Germany's reparations should not be punitive and economic disarmament should not affect 'machinery, but mechanisms', i.e., the threat of German militarism should not be contained by removing her industrial potential, but by creating an international security architecture.[26] From spring 1944, however, Henry J. Morgenthau, Secretary of the Treasury, and Eleanor Roosevelt, President Roosevelt's wife, led a pro-security, anti-industry campaign that advocated a harsh peace with Germany. This changed the dominant attitude in the public and in the administration and resulted in the formulation of JCS 1067 in April 1945.[27]

Key figures in the Washington administration's pro-industry fraction were John J. McCloy, Assistant Secretary of War, and John H. Hilldring, Chief of the Army's Civil Affairs Division and delegate at the Potsdam Conference. For them JCS 1067 was a policy 'assembled by economic idiots' who wanted to 'forbid the most skilled workers in Europe from producing as much as they can for a continent which is desperately short of everything'.[28] McCloy and Hilldring unsuccessfully tried to change JCS 1067 in its inception phase. Once it was in effect they adopted a different strategy. They accepted the directive for the time being and over time policy change should 'bubble out of the facts' that the military administration would 'uncover' in Germany.[29] Moreover, the Potsdam Agreement between the four occupying powers gave actors within OMGUS scope to apply JCS 1067 not too literally. It stipulated that 'during the period of occupation Germany shall be treated as a single economic unit'.[30] This provided zonal administrations with leeway to allow the production of goods in their zone that were needed in another, for trade between zones, the reconstruction of transportation links and coordination between zonal administrations.

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[26]Mausbach, 'Restructuring and Support', pp. 278-9.

[27]Steven Casey, 'The Campaign to Sell a Harsh Peace for Germany to the American Public, 1944-1948', *History* 90, no. 297 (2005): 62–92. On the different factions in the US administration, see also: Carolyn Woods Eisenberg, *Drawing the Line : The American Decision to Divide Germany, 1944-49* (New York, NY: Cambridge University Press, 1996), pp. 14-70.

[28]Cited in: Gimbel, *The American Occupation of Germany*, p. 1.

[29]Cited in: ibid., p. 8.

[30]FRUS, United States Department of State, *Potsdam II*, p. 1504.

In OMGUS, both the pro- and the anti-industry view were represented. Bernard Bernstein and his men held the flag of the anti-industry fraction. Bernstein was Head of the Finance Division of OMGUS and his men were dubbed the Morgenthau boys. The pro-industry fraction was led by Lucius D. Clay, Deputy Military Governor of the US Zone and William H. Draper, Director of the Economics Division of OMGUS. While the anti-industry fraction was stronger in the American public and in the Washington administration in mid-1945, the pro-industry fraction was stronger in OMGUS. Actors from both camps in OMGUS produced cognitive artefacts on Germany's economy and made them travel to the US. In doing so, they tried to give legitimacy to their respective agendas.

5.3.2 Producing cognitive artefacts

Both camps drew on the same type of resources in producing cognitive artefacts. These resources were records that the Third Reich had produced, German ministerial personnel who knew how to handle these records and data from the current military administration. Both sides tried to control as many of these resources as possible, to strengthen their own production of cognitive artefacts and to weaken the production of the other side.

By the end of 1945 the pro-industry camp gained virtually full control over these resources, see table 5.2, p. 170. While a quantification is not easily possible, the rivalry of the two sides is evidence that the resources were of great value. The Ministerial Collecting Center (MCC), the repository of the pro-industry camp, inventoried the German ministerial personnel and the tons of the documents it held. The Finance Division kept its resources elsewhere, in 44 field offices that were spread throughout the American zone. The Finance Division did not report any quantities, but in December 1945, when its field offices were dissolved, the military administration reported that 24,000 feet of documents were centralised.

Table 5.2: Distribution of resources between the competing camps in OMGUS for the production of artefacts

| | Pro-industry camp[1] | | Anti-Industry camp[2] | |
	Records	Personnel	Records	Personnel[3]
May 1945	90t[4]	25[4]	15K ft.[4]	?
September 1945	130t	130	21K ft.[4]	?
January 1946	150t	250	-	-

[1] Resources were housed at the Ministerial Collecting Center (MCC), the official repository for resources of the Third Reich, which was operated by SHAEF.

[2] Resources were housed in 44 field offices, spread throughout the American zone. Bernstein established this separate infrastructure for the Finance Division. The field offices were dissolved in December 1945 and 24,000 feet of records centralised.

[3] Numbers are not known.

[4] Proportionate estimates.

Sources: Lester K. Born, 'The Ministerial Collecting Center Near Kassel, Germany', *The American Archivist* 13, no. 3 (1950): 237–258. BAK, OMGUS: Ministerial Collecting Center, *USGCC 3/125-1/10: Semi-Monthly Report, 1 to 15 December 1945*, December 1945.

The MCC in total, according to Ziemke, held 750 tons of documents of the Reich's ministries and close to 100 German officials by the end of May 1945.[31] The MCC was formally established on 13 June 1945 by the Supreme Headquarters of the Allied Expeditionary Forces (SHAEF), the joint American-British headquarters. The facility was secret, codenamed Goldcup, and its stated purpose was to 'safeguard [...] records and archives of the German Ministries, [...] provide a collecting center for such German Ministerial officers and officials as may be required for interrogation [and] provide an information and interrogation center relative to the German Ministries for the use of the Supreme Headquarters [...] and other agencies as may be jointly authorised by the U.S. and British Zone Commanders'.[32] The site of the MCC comprised three villages, five camps and a munitions factory about 12 miles southeast of Kassel, more than 300 buildings in total; on some days, more than a hundred trucks arrived to unload materials and

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[31] Ziemke, *The U.S. Army in the Occupation of Germany, 1944-1946*, p. 315.

[32] SHAEF, *USGCC 44-45/10/3, fiche 1 : Ministerial Collecting Center*, June 1945.

people.[33] On 1 November, according to the MCC archivist Lester K. Born (1950), Goldcup housed about 1,250 tons of documents, more than 1,200 German ministerial personnel and about 70 tons of film and scientific apparatus.[34] On 10 December, according to MCC's semi-monthly report, it held close to 1,400 tons of documents and more than 1,100 officials.[35]

With respect to the competing camps within OMGUS, the composition of documents and officials at the MCC is much more telling than its absolute holdings. The resources of the pro-industry fraction far outstripped those of the security camp. On 1 November Draper's Economics Division held 264 individuals and 145 tons of documents.[36] Draper's division was second, with regard to individuals, only to the Armed Forces and third, regarding documents, to the Armed Forces and the Foreign Office. On 10 December 1945 there were 257 former German officials and 150 tons of documents on the roster of the Economics Division.[37] In comparison, the resources of Bernstein's Finance Division at the MCC were negligible. On 1 November there were seven officials and $1/2$ ton of documents.[38] On 10 December there were three individuals and $1/4$ ton of files.[39]

The MCC was a prize for the administration, particularly for the pro-industry camp. By 1 November it had had more than 600 visitors, Galbraith was one of them. They came for the files, the German personnel or both.[40] The MCC had a considerable output as well, although figures vary by source. Born speaks of 'about 200 reports' that the German experts had produced by the end of October.[41] A memo of the MCC from December speaks of 110 reports and 25 radio talks, most of them on the agricultural industry, the food situation, but also

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[33]Lester K. Born, 'The Ministerial Collecting Center Near Kassel, Germany', *The American Archivist* 13, no. 3 (1950): pp. 239, 250-1.

[34]Ibid., pp. 247-8.

[35]Bundesarchiv Koblenz, (hereafter BAK), OMGUS: Ministerial Collecting Center, *USGCC 3/125-1/10: Semi-Monthly Report, 1 to 15 December 1945*, December 1945.

[36]Born, 'The MCC', pp. 247-8.

[37]OMGUS: Ministerial Collecting Center, *OMGUS-MCC: Semi-Monthly Report*.

[38]Born, 'The MCC', p. 248.

[39]BAK, OMGUS: Ministerial Collecting Center, *OMGUS-MCC: Semi-Monthly Report*.

[40]Born, 'The MCC', pp. 247-8.

[41]Ibid., p. 247.

on price formation, a so-called plant protection service or the supply with machinery.[42]

The Statistical Office of the Industry Division of OMGUS was one of the entities that used the MCC. The Statistical Office consisted itself partly of German human resources. It was located in Bad Nauheim, was established in June and had recruited personnel from the *Abteilung für Maschinelles Berichtswesen* (Division for Automated Reporting) of the *Reichsgruppe Industrie. Reichsgruppe Industrie* was one of the branches of the *Reichswirtschaftskammer*, the industrial organisation of the Third Reich, which was subordinated to the Reich's Ministry of Economics. *Reichsgruppe Industrie* had fled Berlin in March 1945 and was contacted in Bayreuth and Gera in May by the OMGUS Industry Division.[43]

OMGUS evaluated the usefulness of the MCC in autumn 1945, with a view of discontinuing it. Bernstein was the only division head who argued that the MCC was of 'no value' and that it should be closed.[44] Considering the Finance Division's meek holdings at the MCC, Bernstein's proposition is not surprising. He kept his resources away from the MCC and shutting down the facility would have given him a significant advantage. Bernstein had set up 44 field offices throughout the American zone. There the Finance Division kept its own resources, away from the MCC and beyond the reach of the pro-industry camp.[45] Bernstein's decentralised parallel organisation controlled at least 24,000 feet of documents and it survived as long as Bernstein himself managed to hang on to a post as Division Head in OMGUS. His tenure ended in December 1945 though. He returned to the US, the field offices were dissolved and its records moved to Griesheim am Main, close to the seat of OMGUS in Frankfurt am Main.[46]

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[42]OMGUS: Ministerial Collecting Center, *MCC FA-61/13: List of studies produced by German experts*, December 1945.

[43]Abelshauser, *Wirtschaft in Westdeutschland 1945-1948*, pp. 32-3; OMGUS and Roth, *OMGUS - Ermittlungen gegen I.G. Farben*, pp. xxvi-xxvii.

[44]USGCC, *USGCC 44-45/10/3 : Evaluation of the Ministerial Collecting Center*, 1945.

[45]OMGUS and Roth, *OMGUS - Ermittlungen gegen I.G. Farben*, pp. xxiv-xxvi.

[46]LSEA, Military Governor of the U.S. Zone, *43 (R481) : Finance - Monthly Report 6*, January 1946, pp. 18-20.

5.3.3 Making cognitive artefacts travel well

Cognitive artefacts and the resources for their production had to travel, from the MCC to the Industry Division, from one field office of the Finance Division to another and between different OMGUS divisions. Ultimately, cognitive artefacts had to travel from the American zone of occupation in Germany to Washington. To legitimise political agency, however, it was not sufficient that resources and cognitive artefacts moved between various actors, entities and audiences. In the terminology of Peter Howlett and Mary S. Morgan (2011), artefacts and resources had to 'travel well'.[47] The content of cognitive artefacts and the resources for their production had to be 'intact' when reaching their destinations.[48] Recipients had to use resources and artefacts in 'new ways'.[49] That is, in the terms of Mary S. Morgan (2011), resources and cognitive artefacts had to travel with 'integrity' and 'fruitfully'.[50]

The concept of 'travelling well' initially refers to facts, used as an umbrella term for 'shared pieces of knowledge' that are 'autonomous, short, specific and reliable'.[51] I apply the concept of 'travelling well' to cognitive artefacts and the resources for their production, because I think that they are facts in such a broad sense, too. Morgan argues that facts have 'many guises and sizes', that they are hard to delimit and while some call them 'data', others might call them 'phenomena'.[52]

By which means did cognitive artefacts and resources for their production travel within OMGUS and between OMGUS and the Washington administration? Which impact could these means have on the integrity and fruitfulness of travelling resources and artefacts? OMGUS disposed of a so-called reports procedure that regulated the flow of official information. Between mid-1945 and

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[47]Howlett and Morgan, *How Well do Facts Travel?*
[48]Morgan, 'Travelling Facts', p. 12.
[49]Ibid.
[50]Ibid., pp. 12, 13, 18.
[51]Ibid., p. 8.
[52]Ibid.

early 1946, the pro-industry camp overhauled the reports procedure along with
the administrative structure of OMGUS.

The precursor of OMGUS was USGCC, the US Group Control Council, Germany,
which formally existed from 8 May until 1 October 1945. The pro-industry camp
was dominant in the USGCC structure, see fig. 5.1, p. 175.[53] Clay stood at the
top of the organisation as Deputy Military Governor and Draper was a member of
the executive office as Assistant Deputy for Resources. Several functional
divisions also belonged to the pro-industry camp, above all Industry, Food &
Agriculture and Trade. The power of the anti-industry camp was concentrated on
a lower, functional level. Bernstein was Head of the Finance Division. In USGCC
resources and artefacts could travel freely between functional divisions, e.g.,
between Finance and Public Health or Industry and Food & Agriculture (F&A),
and directly to Washington.

The Control Office was created by Clay on 13 September 1945. The new unit,
headed by William Whipple, was wedged in between the Military Governor and
the directorates and functional divisions, see fig. 5.2, p. 177. Henke and
Oldenhage describe the Control Office's duties in general terms. Its
responsibilities were to liaise with Washington, to oversee the work of the
functional divisions, to allocate personnel and coordinate the military
government's administrative and reports system.[54] The War Department defined
a report as 'an oral, narrative, tabular, or graphic presentation of information
transmitted from one agency to another' and stipulated that 'no agency of a
command will initiate a report' without a control symbol by the Control Office.[55]
That is, the Control Office controlled the flow of official information in OMGUS
and from OMGUS to Washington. The OMGUS reports procedure could be
tweaked to open certain channels and close others. It could create very specific
audiences. Some reports could not travel at all, others were public, some moved
only between specific OMGUS subdivisions, others could travel to the top of the

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[53]Author's design, following Henke and Oldenhage, 'OMGUS', pp. 16-7.
[54]Ibid., pp. 27, 29.
[55]National Archives and Records Administration, US (hereafter NARA), OMGUS: Economics
Division, *RG-260.319.1 (R&S): Memo to Branch Chiefs on Reports Control*, February 1946.
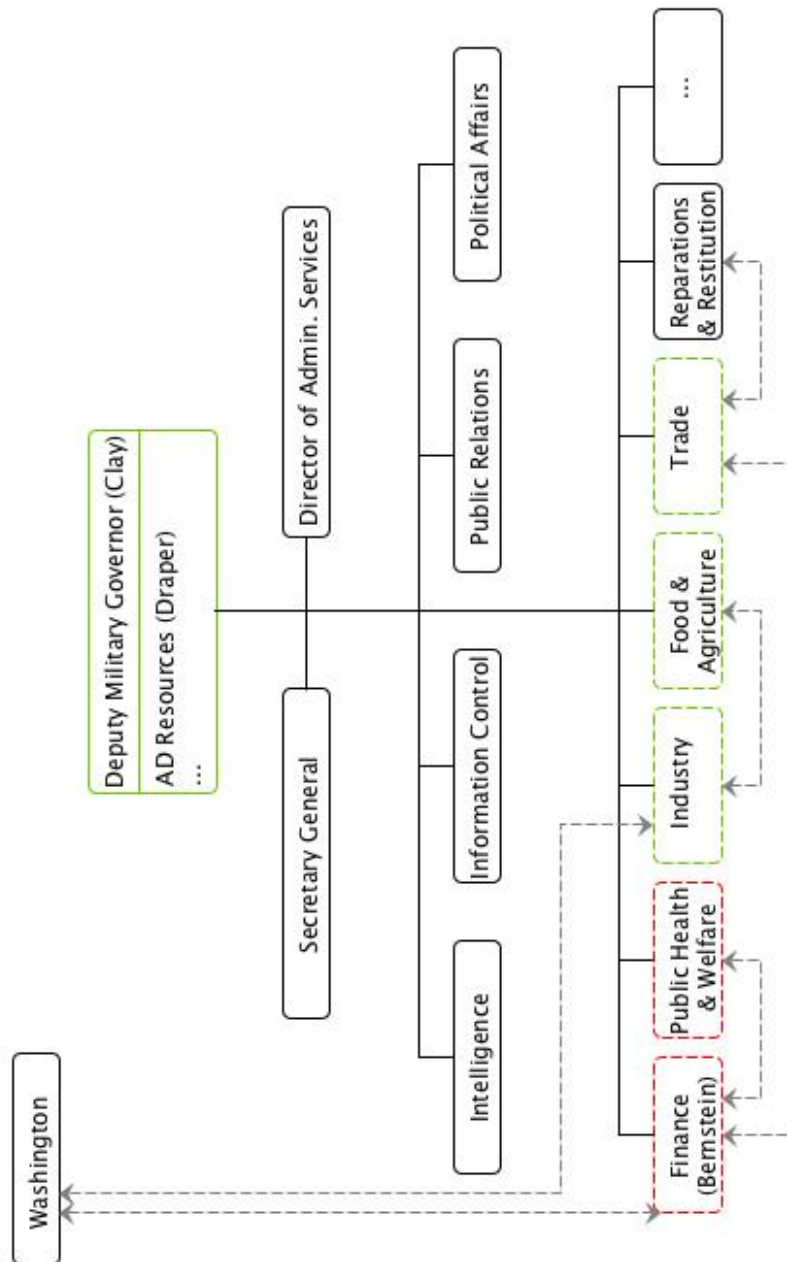
Figure 5.1: Structure of USGCC and exemplary channels of reports system in May 1945. Dashed lines exemplify the movements of reports that the administration produced. These could move freely, e.g., between functional divisions like Finance and Public Health, and travel to Washington directly.

Source: Author's own design, based on Josef Henke and Klaus Oldenhage, 'Office of Military Government for Germany (US)', chap. 1 in *OMGUS-Handbuch: Die amerikanische Militärregierung in Deutschland 1945-1949*, ed. Christoph Weisz (München: Oldenbourg, 1994), 1–143, pp. 16-7.

organisation but not sideways, and some travelled in the entire administration, including Washington.

USGCC was transformed into OMGUS on 1 October, see fig. 5.2, p. 177.[56] Elements that belonged to the pro-industry camp were brought closer together, the anti-industry camp was split up. The Economics Division was created at the functional level. It absorbed Draper's office of the Assistant Deputy for Resources, the Divisions for Industry, Trade & Commerce and Food & Agriculture as branches and furthermore parts of the Reparations & Restitution Division. In addition, the Economics Division received a Policy & Control Branch. Draper, formerly Assistant Deputy of Resources, became Director of the Economics Division in personal union with Economic Advisor to the Deputy Military Governor. Bernstein and his Morgenthau boys were corralled into the Division for the Investigation of Cartels & External Assets, a dedicated IG Farben Control Office was created at the Finance Division.[57]

One of the things that make cognitive artefacts and resources travel well are 'vehicles'.[58] For actors in OMGUS the most immediate and important vehicle was the military administration's reports procedure. We can observe indirectly which consequences the creation of the Control Office had for the anti-industry camp around Bernard Bernstein. On 1 October 1945 he was made Director of the Cartels & External Assets Division and on 15 December the division was broken up again. Typically, functional divisions produced monthly reports that travelled within OMGUS and to Washington. Bernstein's division, however, produced no reports during its short existence. Legitimising agency via cognitive artefacts means that some of them have to be made to travel well, while others have to be made to travel poorly.

Bernstein returned to the US in winter 1945. External assets became the Finance Division's responsibility, the investigation of cartels became part of the Economics Division, see fig. 5.3, p. 179.[59] Chief of the Decartelisation Branch of

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[56]Henke and Oldenhage, 'OMGUS', p. 28.
[57]Ibid., p. 30.
[58]Morgan, 'Travelling Facts', pp. 26-9.
[59]Henke and Oldenhage, 'OMGUS', p. 32.
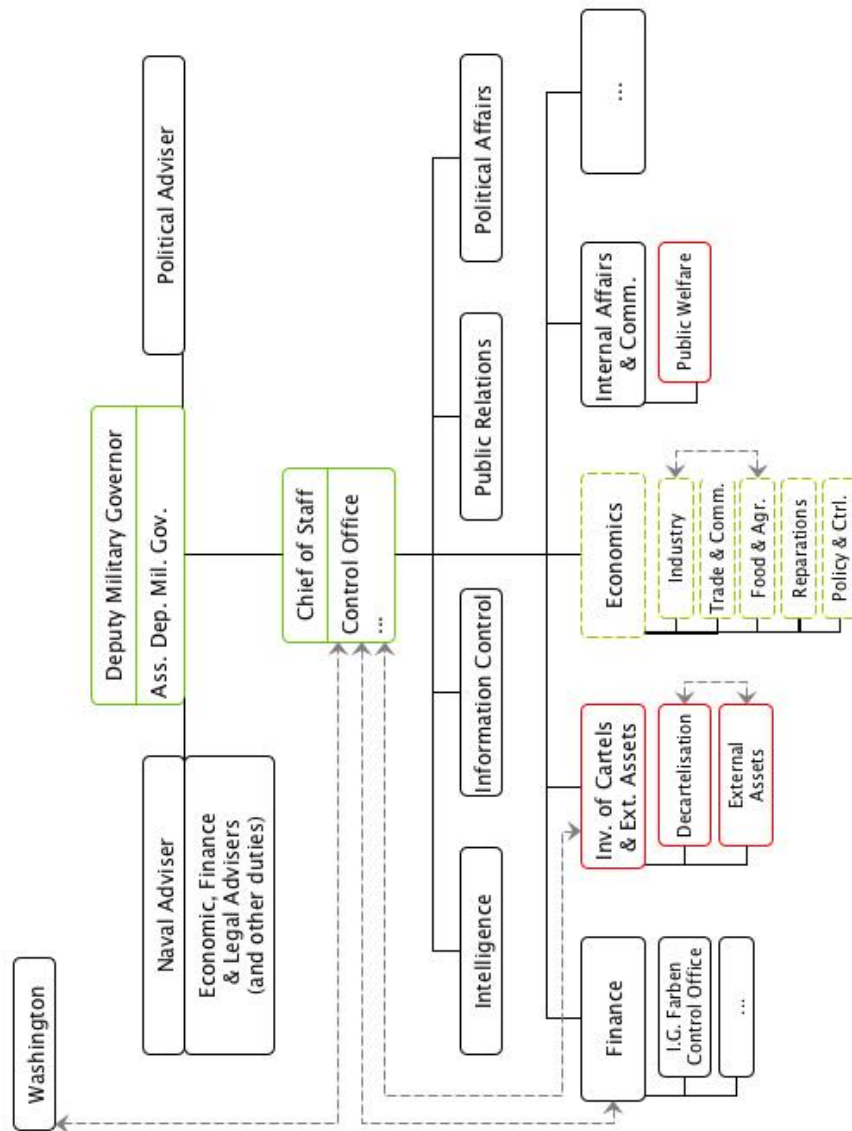
Figure 5.2: Structure of OMGUS and exemplary channels of the reports system in September 1945. A dedicated Economics Division (green) was created from several USGCC elements. William Draper became Director of the Economics Division and Economic Adviser to the Deputy Military Governor. Bernstein became Head of the Division for the Investigation of Cartels & External Assets (red).
The new Control Office and changes to the reports control procedure meant that it could cut off Bernstein from the flow of information and prevent him from submitting reports to Washington.
Source: Author's own design, based on Josef Henke and Klaus Oldenhage, 'Office of Military Government for Germany (US)', chap. 1 in *OMGUS-Handbuch: Die amerikanische Militärregierung in Deutschland 1945-1949*, ed. Christoph Weisz (München: Oldenbourg, 1994), 1–143, pp. 32-4.

the Economics Division became James Stewart Martin. In February 1946 Draper established a reports control procedure for the Economics Division, following the model of the Control Office for the entire administration. Draper charged the Economics Division's Reports & Statistics Branch (R&S) to assign control symbols, change report forms and handle the entire communication with 'outside agencies'; Draper ordered furthermore that R&S review all existing reports, edit them where necessary 'to avoid misinterpretation' and ensure 'clarity and completeness'.[60] Draper assigned control symbols to the Industry Branch, to Food & Agriculture, to Trade & Commerce, but none to the Decartelisation Branch.[61]

Draper denied Martin and the Decartelisation Branch access to the OMGUS reports procedure. That was the vehicle whose purpose it was to make cognitive artefacts and the resources for their production travel well within OMGUS and from OMGUS to Washington. It was not the only vehicle though. There is no evidence that Martin was silenced or prevented completely from sharing information with other Morgenthau boys inside OMGUS and the anti-industry camp more generally. Quite the opposite, there are several well-informed contemporary accounts on the struggle between the two camps in OMGUS. Howard Watson Ambruster (1947) published an account in which he decried the US occupation of Germany as 'treason' and duping of the American people.[62] After leaving OMGUS Martin made a similar argument in his 1950 book, sarcastically referring to his former superiors as *Honorable Men*.[63] The historical record indicates that the published accounts of Ambruster and Martin did not have the force to delegitimise America's pro-industry policy towards Germany. They highlight, however, that we should expect actors to employ a range of strategies to make cognitive artefacts travel well. An official government report and a book are different types of vehicles and they travel to different audiences. Hence they will carry different specifications of a cognitive artefact. Morgan

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[60]NARA, OMGUS: Economics Division, *Memo ED 319.1 (R&S)*.

[61]NARA, ibid.

[62]Howard Watson Ambruster, *Treason's Peace: German Dyes & American Dupes* (New York, NY: Beechhurst Press, 1947).

[63]James Stewart Martin, *All Honorable Men* (Boston, MA: Little, Brown and Company, 1950).
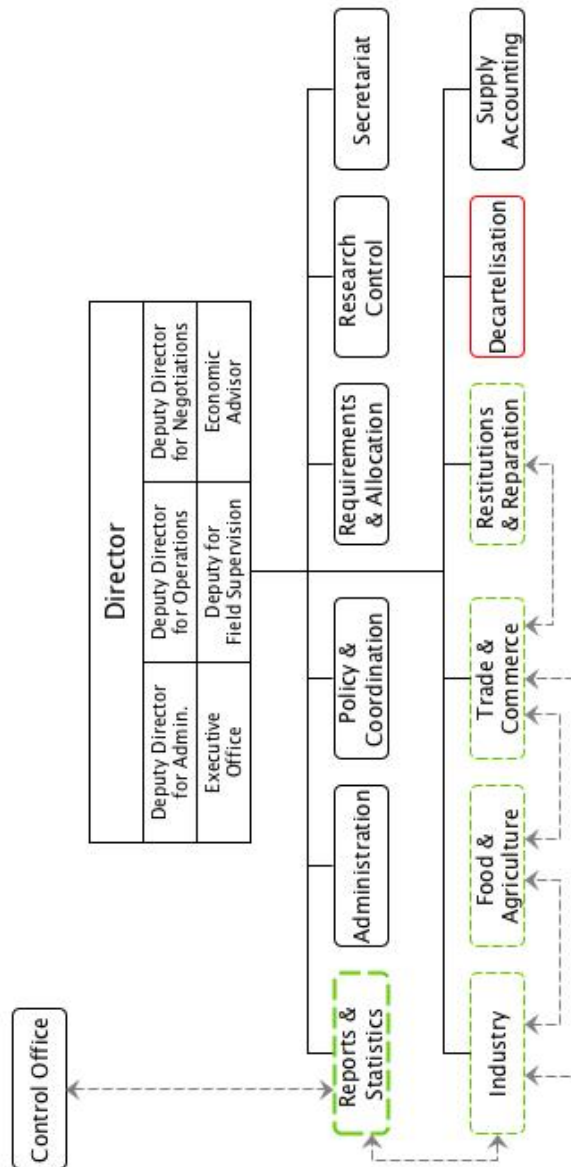
Figure 5.3: Structure of the Economics Division and channels of OMGUS report system, March 1946. The Division for Decartelisation (red) was the last element that belonged to Bernstein's camp. In December 1945 it was made a branch of the Economics Division, the stronghold of the pro-industry camp. In February 1946 the reports control procedure within the Economics Division replicated the pattern the Control Office had already established for OMGUS as a whole. It was adjusted so that the Decartelisation Branch was cut off from the flow of current information and could not send official communication to Washington or to other entities in OMGUS. *Source:* Author's own design, based on: LSEA, Office of Military Government: Economics Division, *HC286.5 G37: A Year of Potsdam : The German Economy since the Surrender*, ed. William Draper, Arthur Settel and Henry Koerner (1946), p. 5.

argues that 'labels, packaging or chaperones' can make for good travels, too.[64] Moreover, 'terrain and boundaries' matter, as does the 'character' of an artefact itself.[65] We might not identify all of these aspects in the travels of the cognitive artefacts of OMGUS, but we should look out for them.

5.4 US occupation policy and cognitive artefacts

Between mid-1945 and early 1946 the pro-industry camp strengthened its control over resources for the production of cognitive artefacts. Moreover, it gained control over the most important vehicle on which cognitive artefacts travelled, the OMGUS reports procedure. Which impact did these developments have on the cognitive artefacts that were produced and that travelled well? How did they shape the scope of agency in Washington and what kind of occupation policy did they legitimise? I investigate these questions by tracking cognitive artefacts on three key issues in the debate over postwar Germany's economy: first, the potential for warfare of Germany's industry; second, the food supply of the population; third, the reasoning that lead to a US occupation policy that promoted industry from 1947.

5.4.1 IG Farben and Germany's potential for warfare

The German company IG Farben was the world's largest chemicals corporation in mid-1945. During the war it had closely collaborated with the Nazi regime and was one of the most important suppliers of the Wehrmacht. IG Farben had provided virtually all of the Wehrmacht's synthetic rubber, methanol, synthetic lubricating oil and explosives.[66] Farben had produced most of the poisonous gas that was used in the gas chambers of the Holocaust.[67] It had operated a factory

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[64]Morgan, 'Travelling Facts', pp. 26-30.

[65]Ibid., pp. 31-3, 33-5.

[66]LSEA, Office of Military Government: Economics Division, *HC286.5 G37: A Year of Potsdam : The German Economy since the Surrender*, ed. William Draper, Arthur Settel and Henry Koerner (1946), p. 192.

[67]LSEA, ibid.

in the Auschwitz concentration camp to make use of prisoners' forced labour.[68]
Farben was covertly active in the US as well, where it maintained close
relationships with Standard Oil and other companies throughout the war.[69] The
stance that the Washington administration would take on IG Farben was a
centrepiece in determining American occupation policy. If Washington saw
IG Farben as a case in point for Germany's industrial war potential, an anti-
industry policy was virtually inevitable. If Washington saw IG Farben as a
problem of the past that was effectively handled and contained by the American
military administration, a major obstacle to a pro-industry policy was
removed.

Starting in July 1945 various units of the American military administration in
Germany produced monthly bulletins, typically consisting of a mix of text and
numerical artefacts. The vehicle on which these bulletins travelled within
OMGUS and to Washington was the OMGUS reports procedure. In July and
August Clay's Report of the Military Governor mentioned neither IG Farben nor
any other German cartel, see fig. 5.4a, p. 183.[70] For Bernstein and the
Morgenthau boys, however, IG Farben was one of the key topics. Bernstein and
the Finance Division reported Farben's global connections with subsidiaries in
Spain, Latin-America and the US. Bernstein told Washington, too, that American
IG had been 'engaged to an extent of more than 60% with government orders for
direct armaments purposes' during the war, see fig. 5.4b, p. 183.[71] In August the

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[68]Vernon Herbert and Attilio Bisio, *Synthetic Rubber: A Project that had to Succeed*, Contributions in economics and economic history (London: Greenwood Press, 1985).

[69]Charles Higham, *Trading with the enemy: An exposé of the Nazi-American money plot 1933-1949* (London: Robert Hale, 1983). Further literature on IG Farben: Gerald Aalders and Gerd Wiebes (1996) analyse the techniques used by neutral countries like Sweden to cloak ownership of Farben assets, see Gerard Aalders and Cees Wiebes, *The Art of Cloaking Ownership: The Case of Sweden: The Secret Collaboration and Protection of the German War Industry by the Neutrals* (Amsterdam: Amsterdam University Press, 1996). Volker Koop (2005) investigates the links between IG Farben and Swiss banks and companies, see Volker Koop, *Das schmutzige Vermögen* (München: Siedler Verlag, 2005). Stephan H. Lindner (2005) deals with the relationship of Hoechst, a successor of Farben, and the Third Reich, see Stephan H. Lindner, *Hoechst: Ein I.G. Farben Werk im Dritten Reich* (München: C.H. Beck, 2005).

[70]LSEA, Military Governor of the U.S. Zone, *43 (R512) : Monthly Report of the Military Governor - 2*, September 1945.

[71]LSEA, Military Governor of the U.S. Zone, *43 (R481) : Finance - Monthly Report 1*, OMGUS, August 1945, pp. 1, 11-3.

Finance Division reported the blocking of IG Farben's financial assets.[72] On 12 September the Finance Division submitted a dedicated report on IG Farben to Clay, consisting of several hundred pages.[73]

Bernstein's cognitive artefacts travelled well to Washington during the first months of the occupation. The vehicle for the bulletins of the Finance Division was the OMGUS reports procedure. Bernstein showed IG Farben to Washington as an ongoing threat to peace. In comparison, no cognitive artefacts on IG Farben by the pro-industry camp travelled to Washington during those months. Clay even applauded Bernstein's investigation into IG Farben when Clay appeared in front of a Senate Subcommittee, led by Harley M. Kilgore. Kilgore was a US senator who had travelled the American zone of occupation in May and June 1945. Upon returning to the US, Kilgore opened a Senate Subcommittee on the elimination of Germany's war potential and thereby became an important ally of Bernstein.[74] Clay, however, as Deputy Military Governor of OMGUS, classified the IG Farben report of Bernstein as restricted. Hence Bernstein's report could no longer travel on the OMGUS reports procedure.[75] On 13 September, the day after Bernstein submitted his IG Farben report, Clay created the Control Office that systematically regulated access to the OMGUS vehicle. Moreover, Clay promoted Bernstein and his men to form the newly created Division for the Investigation of Cartels & External Assets.[76] Bernstein's new division was dissolved again three months later, on 15 December, and it never produced a report that travelled on the OMGUS vehicle.[77]

After creating the Control Office and closing down Bernstein's access to the OMGUS vehicle, the pro-industry camp moved to control Bernstein's production of cognitive artefacts on IG Farben. As of 30 October Clay made cartels and

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[72]LSEA, Military Governor of the U.S. Zone, *43 (R481) : Finance - Monthly Report 2*, September 1945, p. 1.

[73]The report is published in:OMGUS and Roth, *OMGUS - Ermittlungen gegen I.G. Farben*.

[74]ibid., p. xxviii; United States Senate, *Elimination of German resources for war: Hearings before a Subcommittee of the Committee on Military Affairs.* (Washington, D.C.: United States Government Printing Office, 1945).

[75]OMGUS and Roth, *OMGUS - Ermittlungen gegen I.G. Farben*, pp. xxviii - xxxiv.

[76]Henke and Oldenhage, 'OMGUS', p. 27.

[77]LSEA, Military Governor of the U.S. Zone, *43 (R481) : Finance - Monthly Report 3*, October 1945.
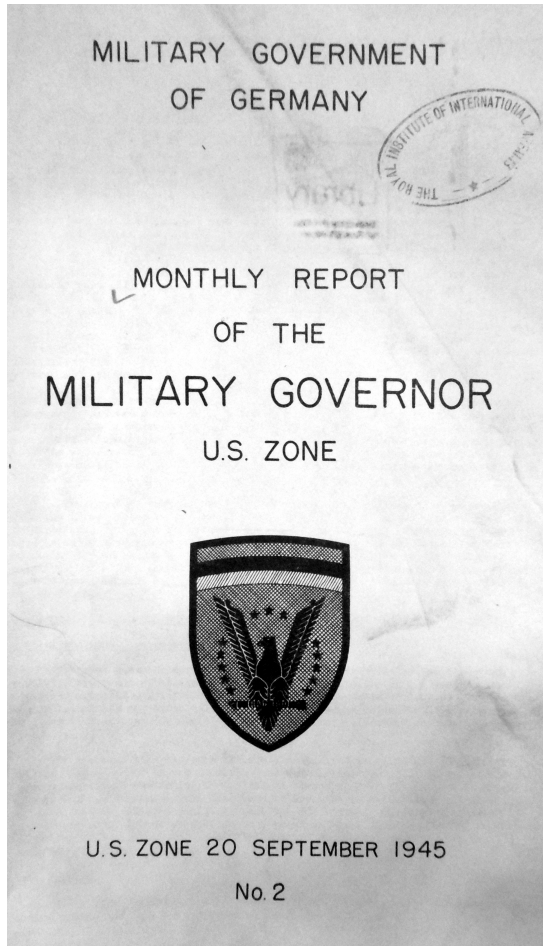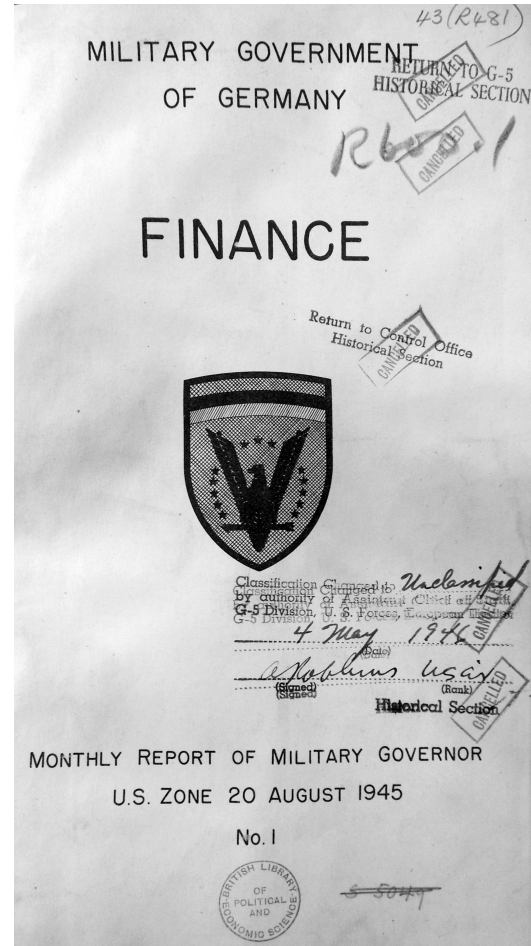
(a) Clay's report   **(b)** Bernstein's report

Figure 5.4: Objects 1a, cover pages of military government reports by Lucius D. Clay, Military Governor, and Bernard Bernstein, Head of the Finance Division, from September and August 1945. Clay did not mention IG Farben. Bernstein investigated the global dimension of the IG Farben conglomerate and relayed its US connections to the Washington administration.

Sources: LSEA, Military Governor of the U.S. Zone, *43 (R481) : Finance - Monthly Report 1*, OMGUS, August 1945; Military Governor of the U.S. Zone, *43 (R512) : Monthly Report of the Military Governor - 2*, September 1945.

external assets a matter of quadripartite control.[78] Consequently, Bernstein's duty
was to deal only with those aspects of IG Farben that fell within the American
occupation zone, i.e., regional assets and facilities. Bernstein could no longer show
IG Farben as a global conglomerate that threatened world peace.[79] In December,
Clay made all of IG Farben a quadripartite matter.[80] That made Bernstein's
division entirely superfluous and it was dissolved the same month. The resources
on which the Morgenthau boys had drawn in their field offices were centralised in
Griesheim am Main. There, according to the pro-industry camp, they facilitated
'the continued investigation by American and Allied investigators'.[81]

What were the politics behind Clay's handling of IG Farben? In autumn 1945 it
was apparent that the four occupying powers, the US, Britain, France and the
Soviet Union, had very different ideas for the future of Germany. Clay was
acutely aware that the Allied Control Council (ACC), the body that was
supposed to develop joint policies and handle quadripartite matters, was
ineffective.[82] Clay impeded the kind of thorough investigation on which Bernstein
had embarked in the summer of 1945 by making IG Farben a quadripartite
matter. Thereafter, all that was left for OMGUS to deal with were the physical
plants of IG Farben that were located in the American zone. These plants were
assigned to a pool of industrial facilities that the Allies thought to dismantle at
some point, either for security reasons, like armaments plants, or to extract
reparations. Hence, as of January 1946, IG Farben was the responsibility of the
Restitutions & Reparations Branch, a unit that belonged to the Economics
Division of OMGUS, see fig. 5.3, p. 179.[83]

The Restitutions & Reparations Branch (R&R) of the Economics Division was
firmly in the pro-industry camp. During 1945 R&R reported to Washington in

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[78]LSEA, Military Governor of the U.S. Zone, *43 (R512) : Monthly Report of the Military Governor - 4*, November 1945, pp. 17-8.
[79]LSEA, Military Governor of the U.S. Zone, *43 (R481) : Finance - Monthly Report 4*, November 1945, pp. 1, 13-4; Military Governor of the U.S. Zone, *43 (R481) : Finance - Monthly Report 5*, December 1945, pp. 1, 11-3.
[80]LSEA, Military Governor of the U.S. Zone, *Finance Report 6*, p. 18.
[81]LSEA, ibid., pp. 19-20.
[82]Eisenberg, *Drawing the Line*, pp. 149, 264.
[83]LSEA, Military Governor of the U.S. Zone, *Finance Report 6*, p. 18.

general terms and aggregate quantities about the progress that OMGUS made in gauging Germany's industrial potential and identifying potential reparation plants.[84] R&R did not focus on any company in particular and the term IG Farben appeared in its reports only once, when a dyes factory in the French zone was added to the roster of available plants.[85] Several armaments plants had been operated by IG Farben during the war, but were actually owned by the Reich. During 1945 R&R itemised these factories consistently as assets of the Reich. The pro-industry camp as a whole, however, started in November 1945 to make its cognitive artefacts on IG Farben travel well to Washington. On 12 November the Industry Branch of the Economics Division blasted two of the armaments plants that were owned by the Reich and had been operated by IG Farben. The Army's Signal Corps documented the blasting with its camera and film teams. The handle of the detonator was pressed down by General Lucian K. Truscott and he did so several several times until his expression and the camera angle were suitably tough for the occasion, see fig. 5.5, p. 186.

In December 1945 Truscott could be seen in action in the press and on United's Newsreel, where he followed Göring and other Nazis standing trial in Nuremberg, see fig. 5.6, p. 188. In news reports the blasted plants were described as IG Farben plants, neglecting the distinction between operator and owner. After the American public and the Washington administration had a chance to see the blasting of the IG Farben plants, R&R changed its reporting on IG Farben and the cognitive artefacts it sent to Washington. In R&R's report of January 1946 IG Farben showed up in the table of contents and in the synopsis.[86] Moreover, R&R itemised plants that were owned by the Reich and operated by IG Farben as assets of IG Farben; R&R reported the destruction of the two plants and calculated that 21 of 42 sites, or about 52% of Farben's production capacity in

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[84]Military Governor of the U.S. Zone, *43 (R525) : Reparations and Restitution - Monthly Report 3*, October 1945; Military Governor of the U.S. Zone, *43 (R525) : Reparations and Restitution - Monthly Report 4*, November 1945; Military Governor of the U.S. Zone, *43 (R525) : Reparations and Restitution - Monthly Report 5*, December 1945.

[85]LSEA, Military Governor of the U.S. Zone, *Reparations Report 4*, p. 3.

[86]LSEA, Military Governor of the U.S. Zone, *43 (R525) : Reparations and Restitution - Monthly Report 6*, January 1946, p. 1.

Figure 5.5: Object 1b, showcased blasting of an IG Farben plant. Three different takes of General Lucian K. Truscott show him blasting the IG Farben armaments plant at Kraiburg on 12 November 1945. Industry Branch choreographed the occasion, the Army's Signal Corps filmed and photographed it.
Source: NARA, OMGUS: Army's Signal Corps, *111 ADC 9928, RG-60.3603: Blasting IG Farben Plant*, November 1945.

the US Zone, were either destroyed or available for reparation.[87] R&R did not point out that the destroyed factories were owned by the Reich, not by Farben. IG Farben received similar prominence in R&R's report of February 1946.[88]

How did the images of General Truscott on the detonator handle make the cognitive artefacts of the pro-industry camp travel well? Obviously, the artefacts did not travel with the images, i.e., the images were not a vehicle. The Travelling Facts project offers the analytical term 'chaperones' that is helpful here.[89] Chaperones are individuals who 'act as knowing or unknowing companions' of a cognitive artefact.[90] By blasting the plants and by producing images of it, the Industry Branch of OMGUS and the US Army's Signal Corps produced large numbers and different groups of chaperones. Above all, there is Truscott. As high-ranking general, member of OMGUS and blaster, Truscott became 'authority', 'expert' and 'witness' at the same time.[91] Furthermore, the journalists, camera men, photographers and OMGUS members who were on site became eye witnesses. Finally, those who saw the images of the blasting became indirect witnesses. The numerical artefacts on IG Farben's containment that R&R produced from January 1946 had many chaperones.

The chaperones resided in different social spheres and had hugely varying degrees of expertise on IG Farben. Moreover, the vast majority of chaperones never saw the cognitive artefacts that the pro-industry camp produced and circulated. That asymmetry brings us back to the problem that we have encountered in the previous case. Actors need to align parties with potentially diverging objectives in order to legitimise political agency. How can they do that? In other words, how could a camera man or the audience of Universal's newsreel be made into chaperones of the pro-industry camp's artefacts? Here the notion of 'packaging' is helpful.[92] Cognitive artefacts were packaged into images and a narrative of the destruction of IG Farben plants. The pro-industry camp demonstrated that it

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[87]LSEA, Military Governor of the U.S. Zone, *Reparations Report 6*, pp. 3-5.
[88]LSEA, Military Governor of the U.S. Zone, *43 (R525) : Reparations and Restitution - Monthly Report 7*, February 1946.
[89]Morgan, 'Travelling Facts', p. 30.
[90]Ibid.
[91]Ibid.
[92]Ibid., pp. 28-9.
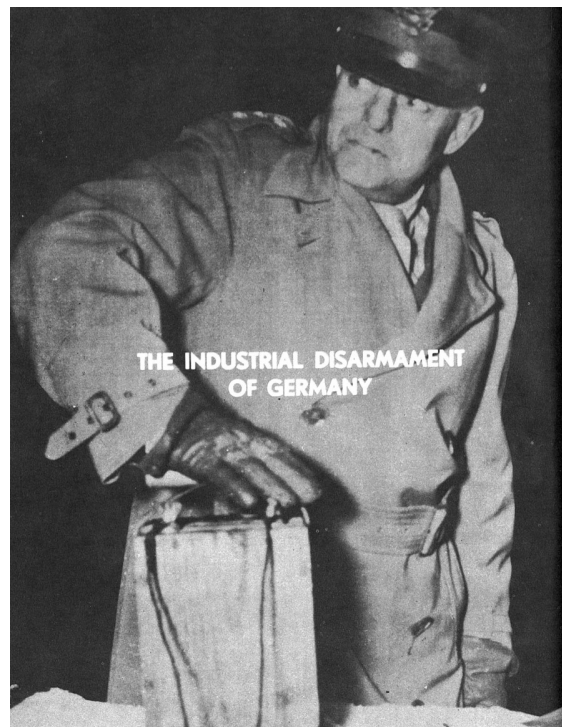
Figure 5.6: Object 1c, Universal Newsreel of the blasting of the IG Farben armaments plant at Kraiburg in November 1945. The materials of the Army's Signal Corps featured in Universal's Newsreel from 6 December 1945. It showed the broad public how OMGUS contained the threat that Germany's industry posed to peace. *Source:* Still images of newsreel taken from: LSEA, Office of Military Government: Economics Division, *HC286.5 G37: A Year of Potsdam : The German Economy since the Surrender*, ed. William Draper, Arthur Settel and Henry Koerner (1946), pp. 22, 24.

contained IG Farben's threat to security by telling a simple, spectacular and catchy story, similar to Lloyd George's reparations promise after World War I to search German 'pockets for the last farthing'. That story packaged cognitive artefacts that were much less straightforward. Hence the packaging transformed the cognitive artefacts, too.[93]

The decline of the anti-industry camp began when President Roosevelt died on 12 April 1945 and was succeeded by Harry Truman.[94] Morgenthau resigned from the Treasury on 22 July 1945. The Morgenthau boys left their posts in the military administration in Germany or were squeezed out in the course of autumn and winter. Thereafter, the anti-industry camp continued to pursue a harsh peace with Germany by appealing to the American public.[95] Steven Casey (2005) argues that the campaign lost momentum in the course of 1946 and was truly lost in 1948.[96] From 1946 onwards Germany's industry in general and IG Farben in particular were increasingly less perceived as a threat to world peace. IG Farben was in the centre of attention again on 5 June 1947, when 24 executives were charged in the Nuremberg trials. Records on Farben that had been brought to Griesheim in late 1945 were destroyed before the process. Prosecutor Josiah E. DuBois was discredited as Jewish, i.e., partial, and a 'follower of the Communist creed'.[97] The trial ended very favourably for the defendants and for IG Farben. They were found to have no collective responsibility for the war or war crimes and only some individuals were sentenced for crimes like participation in looting. The maximum sentence was eight years and some managers continued their career at IG Farben after their time in prison.[98]

US policy also changed in favour of IG Farben and Germany's cartels between mid-1945 and early 1947. According to Regina Ursula Gramer (2004), policy took

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[93]Morgan, 'Travelling Facts', p. 29.

[94]Eisenberg, *Drawing the Line*, pp. 14-70.

[95]Henry Morgenthau, *Germany is our Problem* (New York, NY: Harper & Brothers, 1945).

[96]Casey, 'The Campaign for a Harsh Peace'.

[97]OMGUS and Roth, *OMGUS - Ermittlungen gegen I.G. Farben*, pp. lv-lvi; Josiah E. DuBois and Edward Johnson, *The Devil's Chemists: 24 Conspirators of the International Farben Cartel who Manufacture Wars* (The Beacon Press, 1952).

[98]OMGUS and Roth, *OMGUS - Ermittlungen gegen I.G. Farben*, pp. lviii - lix.

a U-turn from 'decartelisation to reconcentration'.[99] When the chemicals giant was finally dismantled from February 1947 onwards, the outcome were not the dozens of small companies once envisioned, but three large corporations and a few smaller ones. The most well-known successor companies of IG Farben are BASF, Bayer, Hoechst and Agfa. That outcome was 'much more favourable to West German industry preferences' than the decartelisation ideas from mid-1945.[100]

5.4.2 Food supply of the German population

We have outlined how the pro-industry camp gained the upper hand in the course of 1945. It increasingly controlled the resources for the production of cognitive artefacts and was in a better position to make its own artefacts travel well. Which impact did this development have on the cognitive artefacts concerning food supply in Germany? From the start of the occupation, the pro-industry camp argued that the food supply of the population could only be secured through imports, which should be paid for by exports. In autumn 1945 Clay emphatically warned Washington of an impending humanitarian catastrophe. Via his monthly report, he relayed that the American zone could only produce rations of 930 calories throughout October 1946 and that the Germans would 'not subsist in good health'.[101]

A few months before Clay's warning, SHAEF had compiled a handbook for the military government of the occupation. For 1944/45 American experts estimated that native food production would amount to a daily ration of 1,745 calories. In addition, 400 calories per person and day would be carried over from reserves. Occupation policy for Germany provided for a ration of 2,000 calories, in keeping

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[99]Regina Ursula Gramer, 'From Decartelization to Reconcentration: The Mixed Legacy of American-Led Corporate Reconstruction in Germany', in *The United States and Germany in the Era of the Cold War, 1945-1990*, ed. Detlef Junker, vol. 1 (Washington, D.C.: German Historical Institute / Cambridge University Press, 2004), pp. 289-90.

[100]Ibid.

[101]LSEA, Military Governor of the U.S. Zone, *Military Governor's Report 4*; Military Governor of the U.S. Zone, *43 (R512) : Monthly Report of the Military Governor - 5*, December 1945, p. 14-5.

with provisions across Europe and matching the League of Nation's recommendation for a working adult.[102] Hence the initial expectation was that rations in Germany would have to be actively reduced.[103] Looking back, Werner Abelshauser (1998) maintains that rations for a member of a worker's family were 1,671 calories in 1944/45 and 1,471 in 1945/46.[104] Hence the 930 calories that Clay reported to Washington in November 1945 understated caloric supply by approximately a third. Clay's number fell far short of the supply SHAEF anticipated and of actual rations as they are known in hindsight.

Clay and the military administration might have chosen to err on the side of caution rather than dealing with an actual famine. If we consider which numerical artefacts Clay and the pro-industry camp made travel well and which they made travel poorly, we come to a different conclusion. It was not clear what was happening on the ground and all sorts of claims could legitimately be made. In that situation Clay and the pro-industry camp adduced such evidence that suited their political agenda of promoting German industry. In contrast to the pro-industry fraction, the Public Health and Welfare Division (PH&W) of OMGUS painted a very different and much more optimistic picture in its reports to Washington.[105] In early September 1945 the authors of PH&W's monthly report found no evidence of a poor humanitarian situation. PH&W worried about the structures of relief agencies and their coordination. In passing they mentioned that about 20% of the population depended on 'public assistance', but the relationship between relief administration and unemployment insurance was a

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[102]Atina Grossmann, 'Grams, Calories, and Food: Languages of Victimization, Entitlement, and Human Rights in Occupied Germany, 1945-1949', *Central European History* 44, no. 1 (2011): p. 122.

[103]SHAEF and Dwight D. Eisenhower, *Handbook for Military Government in Germany prior to Defeat or Surrender* (US Army, 1944), §§ 887-94.

[104]Abelshauser draws on Hans-Joachim Riecke, Undersecretary at the Reich's Ministry of Food and Agriculture; Abelshauser, 'Germany: guns, butter, and economic miracles', p. 155.

[105]Jessica Reinisch (2013) has produced a comparative study of public health policies in the four occupation zones between 1945 and 1949. She remarks that services in the American zone were best, due to superior American resources and absence of internal conflict in the administration, and that the attitude towards the German population was soon remarkably positive. Reinisch does not comment on the early developments in OMGUS though. Jessica Reinisch, *The Perils of Peace: The Public Health Crisis in Occupied Germany* (Oxford: Oxford University Press, 2013), pp. 188 - 220.

more pressing problem than food supply, see fig. 5.7a, p. 193.[106] Meanwhile, in Clay's report, Germany's population was heading straight for 'wide spread malnutrition'; food, transportation and fuel were the 'most immediate economic problems'.[107] The Food & Agriculture (F&A) Division made the same point already a month earlier. Its 'German technical experts' had calculated that 11m tons of supplies, consisting of fertilisers, pesticides, machinery and combustibles, had to be imported to achieve the necessary calorific output in 1945/46, see fig. 5.7b, p. 193.[108] The calculations on Germany's food supply that Clay and F&A quoted came from the MCC. They were produced by some of the roughly 250 former German officials that the Economics Division held there.

Similar to the IG Farben issue, the pattern of cognitive artefacts that travelled well from the American military administration to Washington changed with the creation of the Control Office and the restructuring of OMGUS in September/ October 1945. PH&W had to submit to the reports control procedure of the Control Office and lost its independence in the restructuring of USGCC into OMGUS. In USGCC, PH&W was an independent functional division that could make its own cognitive artefacts travel. In OMGUS, PH&W became a section of the Internal Affairs and Communications Division, see fig. 5.1, p. 175, and fig. 5.2, p. 177. Once the authors of the Public Welfare report belonged to Internal Affairs and Communications, they produced cognitive artefacts on food supply that aligned well with the warnings of Clay and F&A of a looming catastrophe. To PH&W, food, clothing, fuel and shelter were pressing problems in their October 1945 report. After stating that they had 'very little statistical data' on current and future public assistance, the authors of the PH&W report went on to imagine the mass feeding centres of the coming winter in great technical detail. The 'most acute problem' was that of obtaining food. The authors rounded off their report, citing a survey of living conditions, that riots in the coming winter would be due to 'demands for the basic necessities for

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[106]LSEA, Military Governor of the U.S. Zone, *43 (R523) : Public Welfare - Monthly Report 2*, September 1945, pp. 1, 6.

[107]LSEA, Military Governor of the U.S. Zone, *Military Governor's Report 2*, pp. 5-7.

[108]LSEA, Military Governor of the U.S. Zone, *43 (R482) : Food and Agriculture - Monthly Report 1*, August 1945, p. 2.
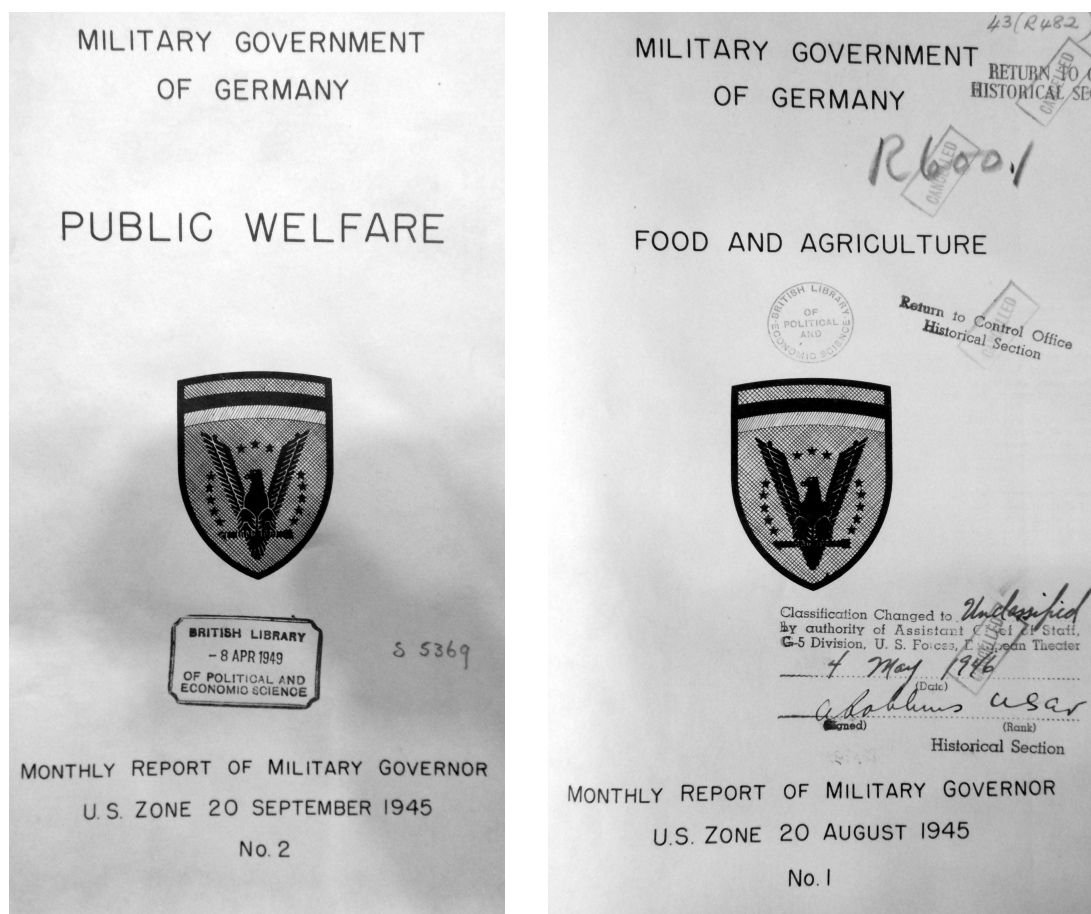
(a) Public Health & Welfare

(b) Food & Agriculture

Figure 5.7: Objects 2a; cover pages of OMGUS reports to Washington by the Public Health & Welfare Division (PH&W) and the Food & Agriculture Division (F&A) from September and August 1945. PH&W was not worried about food supply, F&A warned of starvation in the upcoming winter of 1945/46 and calculated imports that would be necessary to close the subsistence gap. F&A's predictions were based on calculations by German experts and proved to be overly pessimistic by December 1945.

Sources: LSEA, Military Governor of the U.S. Zone, *43 (R523) : Public Welfare - Monthly Report 2*, September 1945; Military Governor of the U.S. Zone, *43 (R482) : Food and Agriculture - Monthly Report 1*, August 1945.

continued existence'.[109] The F&A report chimed in in October 1945 as well and remarked that Allied wheat was being distributed to 'prevent disease, disorder and hazard to occupational forces'.[110]

Between November 1945 and February 1946, PH&W produced no monthly reports and did not submit current relief statistics to Washington.[111] F&A and its scribes, however, now part of the Economics Division, made other numerical artefacts travel to Washington and warned that 'facts and figures do not paint a cheerful picture'.[112] Clay doubled up on the grim outlook and relayed that it was now certain, according to the 'third and most complete crop estimate', that the 'Germans will not subsist in good health through 1946 nor revive their depleted agriculture'. To supplement the 930 calorie rations, Clay went on, organised mass feedings were necessary, such as the program of November 1945 that fed 37,000 people in Berlin.[113]

In January 1946 it was evident that the warnings of Clay and F&A were too pessimistic. Nobody was starving or rioting in the American zone of occupation. When the Public Welfare report was produced again in March 1946, it contained relief statistics that would have deflated the pessimism of Clay and F&A much earlier. Continuous relief data for the past months showed that the opposite had happened of what the German experts had predicted. Public assistance had consistently declined since the start of the occupation and was lowest in January 1946, with total expenditure a third lower than in July 1945.[114]

The absence of misery in the population in early 1946 was a setback for the pro-industry camp's objectives. If the population was well-fed, if it was peaceful, if it

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[109]LSEA, Military Governor of the U.S. Zone, *43 (R523) : Public Welfare - Monthly Report 3*, October 1945, pp. 1-3, 6.

[110]LSEA, Military Governor of the U.S. Zone, *43 (R482) : Food and Agriculture - Monthly Report 3*, October 1945, p. 1.

[111]LSEA, OMGUS, *Public Welfare, 1945-1948*, 1949, flyleaf.

[112]LSEA, Military Governor of the U.S. Zone, *43 (R483) : Food and Agriculture - Monthly Report 4*, November 1945, p. 1; Military Governor of the U.S. Zone, *43 (R483) : Food and Agriculture - Monthly Report 5*, December 1945, p. 1.

[113]LSEA, Military Governor of the U.S. Zone, *Military Governor's Report 4*; Military Governor of the U.S. Zone, *Military Governor's Report 5*, p. 14-5.

[114]LSEA, Military Governor of the U.S. Zone, *43 (R523) : Public Welfare - Monthly Report 8*, March 1946, pp. 1, 17.

did not press the American military administration for relief, there was no case to reactivate, let alone promote Germany's industry. This episode offers insight into the limits of managing the travels of cognitive artefacts. It only goes so far in legitimising agency. The predictions by the German experts about food supply travelled well. They were transmitted on the OMGUS reports procedure, they were not subverted by actual relief statistics or challenged by rivalling calculations. Yet, they did nothing to legitimise a pro-industry policy, because they evidently did not represent the things that were actually happening. That brings us to the question what actors do if their cognitive artefacts fail to legitimise their agency or even subvert it?

F&A conceded in January 1946 that 'sufficient food supplies were available' after all and that calorific intake in the most recent rationing period was in fact at 1,550 calories, highest ever since the beginning of the occupation.[115] The authors explained their excessively bleak expectations from previous autumn with inaccurate data, an overestimation of the population and an underestimation of 'indigenous food supplies'.[116] That is, in retrospect F&A declared its own estimates as provisional. Eventually, Clay and F&A retargeted their warnings and predicted a human catastrophe for the winter of 1946/47.

Other units in the pro-industry camp were confronted with the same problem. Their cognitive artefacts made a claim to legitimacy, but discrepancies between artefact and the things actually going on threatened to subvert that claim. The Industry Division of OMGUS, later Industry Branch of the Economics Division, produced a range of cognitive artefacts with the purpose of legitimising a reactivation of German industry.[117] One of the artefacts that Industry Division provided was the counterpart to F&A's starvation prognosis. Industry Division

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[115]LSEA, Military Governor of the U.S. Zone, *43 (R512) : Monthly Report of the Military Governor - 6*, January 1946, p. 6; Military Governor of the U.S. Zone, *43 (R483) : Food and Agriculture - Monthly Report 6*, January 1946, p. 1.

[116]LSEA, Military Governor of the U.S. Zone, *43 (R483) : Food and Agriculture - Monthly Report 7*, February 1946, p. 1.

[117]For example, at the time when F&A calculated requirements for fertiliser, Industry Division relabelled its inventory in a suitable manner. Plants for chemical base products were re-listed as fertiliser plants, e.g., the soda ash plant in Heilbronn or the ammonia plant in Trostberg. See LSEA, Military Governor of the U.S. Zone. *Industry - Monthly Reports 1-6*. Aug. 1945 to Jan. 1946.

produced a numerical artefact that compared actual output of agricultural equipment to required output, the latter being estimated by Germans at the MCC. Throughout autumn and winter 1945 actual output fell far short of requirements.[118] An example is the production of tractors, see fig. 5.8a, p. 197. The German experts estimated that the US Zone needed 1,062 tractors in the first quarter of 1946. Actual production, however, only amounted to 22 tractors in October 1945 and 25 in November. That suggested a significant shortfall for the coming quarter, allowing the pro-industry camp to argue for a more far-reaching activation of Germany's industry to increase production and pay for necessary imports.

Similar to what happened to F&A, the Industry Branch was forced to readjust the relationship between its numerical artefacts and actual events in January 1946. A surprisingly high output figure for ploughs threatened to debunk the argument that the level of current industrial production in the US zone would lead to starvation, see fig. 5.8b, p. 197. The output of ploughs was 225 units in October 1945 and 260 in November, while requirements for the first quarter of 1946 were estimated at 1,000 units, see fig. 5.8a, p. 197. Surprisingly, 1,756 ploughs were produced in December 1945, more than fulfilling requirements, see fig. 5.8b, p. 197. Industry Branch reacted by revising its estimate of required ploughs. Instead of 1,000 units, as of December 1945, Industry Branch estimated in January 1946 that 10,749 units were needed. While both requirement estimates were provisional numbers, Industry Branch replaced a number that threatened their political agenda with a number that was suitable.

Moreover, from March 1946 onwards, Industry Branch used a different type of cognitive artefact to compare actual and required production of agricultural implements. A line graph was used instead of a table, see fig. 5.9, p. 198. While the table reported disaggregated figures for different types of machines, the graph was based on aggregate figures for all machines. One line of the graph showed prewar production, too. The graphic artefact had several advantages over the

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[118]LSEA, Military Governor of the U.S. Zone, *43 (R495) : Industry - Monthly Report 1*, August 1945, p. 2; Military Governor of the U.S. Zone, *43 (R495) : Industry - Monthly Report 2*, September 1945, pp. 1-2; Military Governor of the U.S. Zone, *43 (R495) : Industry - Monthly Report 3*, October 1945, p. 20.

PRODUCTION OF AGRICULTURAL IMPLEMENTS
(U.S. Zone)

Machines	Production					U.S. Zone Requirements 1st Quarter 1946
	Jul	Aug	Sep	Oct	Nov a/	
Tractors	4	4	11	22	25	1,062
Threshers	79	144	255	118	50	875
Binders	141	243	63	61	40	875
Mowers	439	458	255	236	240	2,750
Cultivators	0	0	50	0	100	750
Drills	247	244	92	64	60	2,500
Harrows	287	187	85	147	225	10,000
Plows	2	1,496	332	225	260	1,000
Potato Tools	201	216	626	145	45	1,750
Rakes & Tedders	12	116	23	1	50	1,875

(a) December 1945

PRODUCTION OF AGRICULTURAL IMPLEMENTS
(U.S. Zone)

Machines	Production					U.S. Zone Requirements 1st Quarter 1946
	Aug	Sep	Oct	Nov	Dec a/	
Tractors	4	11	22	10	8	1,062
Threshers	144	255	118	181	55	875
Binders	243	63	61	0	0	875
Mowers	458	255	236	350	295	2,750
Cultivators	0	0	0	100	458	750
Drills	244	92	64	60	10	2,500
Harrows	187	85	147	50	39	10,000
Plows	1,496	332	225	250	1,756	10,749
Potato Tools	216	626	145	306	200	1,750
Rakes & Tedders	116	23	1	25	0	1,875

(b) January 1946

Figure 5.8: Object 2b; production statistics of agricultural implements in the US zone from December 1945 and January 1946. Industry Branch reported actual output and estimated requirements to Washington. When production of ploughs, third line from the bottom, in December 1945 increased to more than 1,700 units and thereby exceeded the estimated requirement of 1,000 units, the estimate was drastically revised upwards to more than 10,000 units.
Source: LSEA, Military Governor of the U.S. Zone, *43 (R495) : Industry - Monthly Report 5*, December 1945, p. 9; Military Governor of the U.S. Zone, *43 (R495) : Industry - Monthly Report 6*, January 1946, p. 2.

table. First, events like the surprisingly high production of ploughs in December 1945 and any adjustments that Industry Branch might make to requirement estimates would be much less obvious. The graph was more adaptable to actual events than the table. Second, in the graph actual output (bars) was visibly dwarfed by requirements (dotted line) and prewar production (solid line). Hence the graph made a stronger and visually more impressive case than the table for the reactivation of Germany's industry.
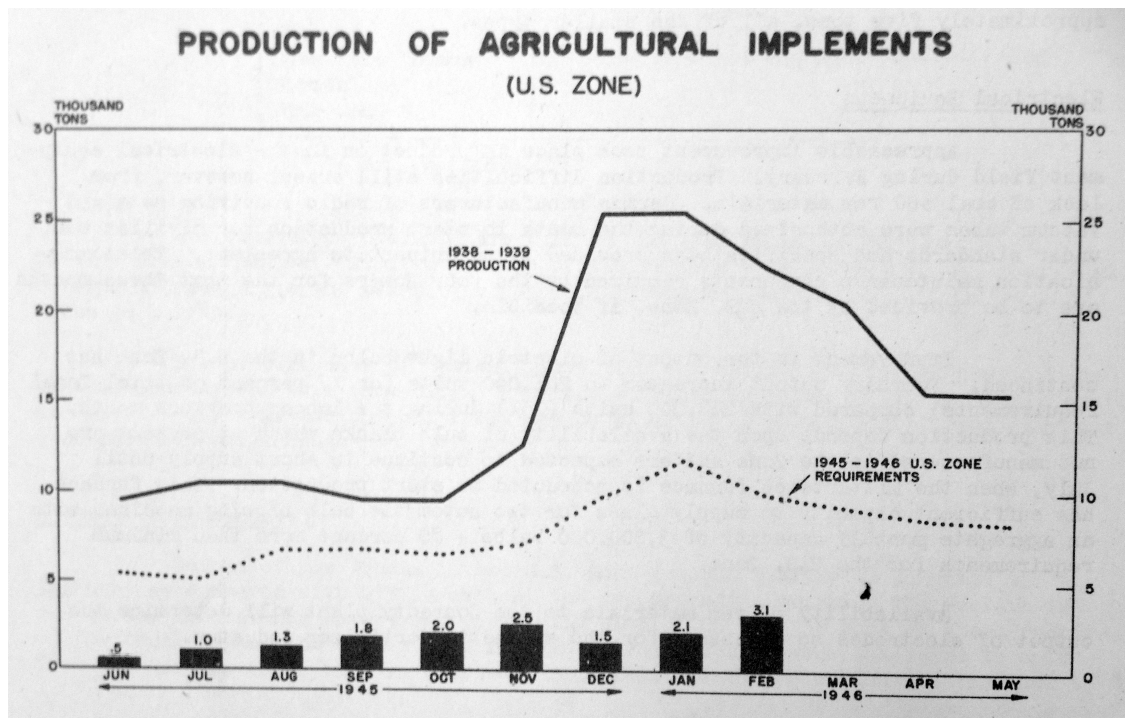
Figure 5.9: Object 2c; graph of the production of agricultural implements in the US zone in 1945-46, relative to estimated requirements (dotted line) and prewar production (solid line). Industry Division switched to the graphic presentation in March 1946. Compared with the numerical presentation it had several advantages. Surprises like the production miracle in ploughs from January 1946 were less visible. Furthermore the gap between actual and required production was visually more impressive.
Source: LSEA, Military Governor of the U.S. Zone, *43 (R495) : Industry - Monthly Report 8*, March 1946, p. 21.

The pro-industry camp of OMGUS iteratively produced, modified and circulated cognitive artefacts to legitimise political agency. In the first two cases the driver

of that iteration was the rejection of cognitive artefacts by negotiation partners. For the actors of OMGUS, the iteration was driven by the need for cognitive artefacts to represent what was actually happening. To that end, actors retrospectively declared numbers as provisional that were rigid initially, they adapted provisional numbers as necessary and they chose more suitable types of cognitive artefacts over less suitable ones.

More generally, producing cognitive artefacts that represent what is happening requires actors to engage in two types of activities. On the one hand, they have to produce new artefacts, e.g., calculate a new forecast of caloric supply. On the other, they have to modify old artefacts, e.g., declare features as provisional that were initially treated as rigid. That suggests two additions to our analytical toolkit. Lampland argues that numbers 'decay' if they are provisional in a temporary sense, because they serve to 'anticipate future possibilities'.[119] Here, however, we have a case in which actors purposely retire provisional numbers when they no longer fit to actual events. As actors retire old provisional numbers, they replace them with suitable new ones. Moreover, we have provisional numbers that are activated as actors retrospectively flip rigid numbers to provisional ones.

5.4.3 Industrial exports for food imports

Herbert Hoover, former President of the United States, visited Austria and the American and British zones in Germany in winter 1946/47. Hoover was the envoy of President Truman's so-called Economic Mission to Europe. In the American zone, Hoover was shown around by OMGUS. He inquired into the food supply of the population with the help of the Food & Agriculture Branch of the Economics Division.[120] After returning to the US, Hoover assembled his findings in a report in March 1947, titled *The necessary steps for the promotion of German exports, so as to relieve the American taxpayers of the burdens of relief and for economic*

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[119]Lampland, 'False numbers as formalizing practices', p. 384.

[120]Timely, F&A also wrote a cumulative review of the past year in February 1947, see LSEA, *Military Governor of the U.S. Zone, 43 (R483) : Food and Agriculture - Monthly Report 20*, February 1947.

recovery of Europe, see fig. 5.10, p. 201.[121] He based his report on a 'mass of information and statistical material secured on [his] journey' and on witnessing the extreme scarcity of food during the winter months of 1946/47 himself.[122] Hoover built on the cognitive artefacts of the pro-industry camp and on his experiences to argue that the population would starve if it was not for American and British aid.[123]

American occupation policy changed in July 1947. JCS 1067 was the directive from April 1945 by the Joint Chiefs of Staff to the American military administration. JCS 1067 had provided that the military government should undertake no steps to reactivate Germany's industry. In July 1947, JCS 1067 was replaced by JCS 1779, which had the objective to stabilise the American zone of occupation and make it economically productive. Michael Hogan (1987) and others argue that the cost of Germany's food supply to the American taxpayer provided a great deal of the political momentum to shift US occupation policy.[124] Under JCS 1779, instead of closing the subsistence gap with Allied relief, Germany should export industrial goods and pay for food imports herself. The economic reasoning of JCS 1779 is encapsulated in the title of the report by Herbert Hoover. Moreover, Hogan argues that the Hoover Report was the template for a policy initiative by the War Department that provided the economic reasoning of the Marshall Plan, which followed a few months later.[125]

We have previously identified several criteria under which cognitive artefacts travel well and legitimise political agency. Many of these criteria apply to the Hoover Report. Above all, the German and Austrian population really was

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[121]Herbert Hoover, *Truman Library : Official File, Truman Papers, 18 March 1947 : Report No. 3 - The Necessary Steps for Promotion of German Exports, so as to Relieve American Taxpayers of the Burdens of Relief and for Economic Recovery of Europe*, March 1947.

[122]Ibid., p. 2.

[123]Ibid.

[124]Michael J. Hogan, *The Marshall Plan : America, Britain, and the Reconstruction of Western Europe, 1947-52*, Economic History and Policy: The United States in the Twentieth Century (Cambridge: Cambridge University Press, 1987), pp. 22-5; Berger and Ritschl, 'Germany and the Political Economy of the Marshall', pp. 210; more broadly: Milward, *The Reconstruction of Western Europe, 1945-51*, pp. 3-6.

[125]Hogan, *The Marshall Plan*.
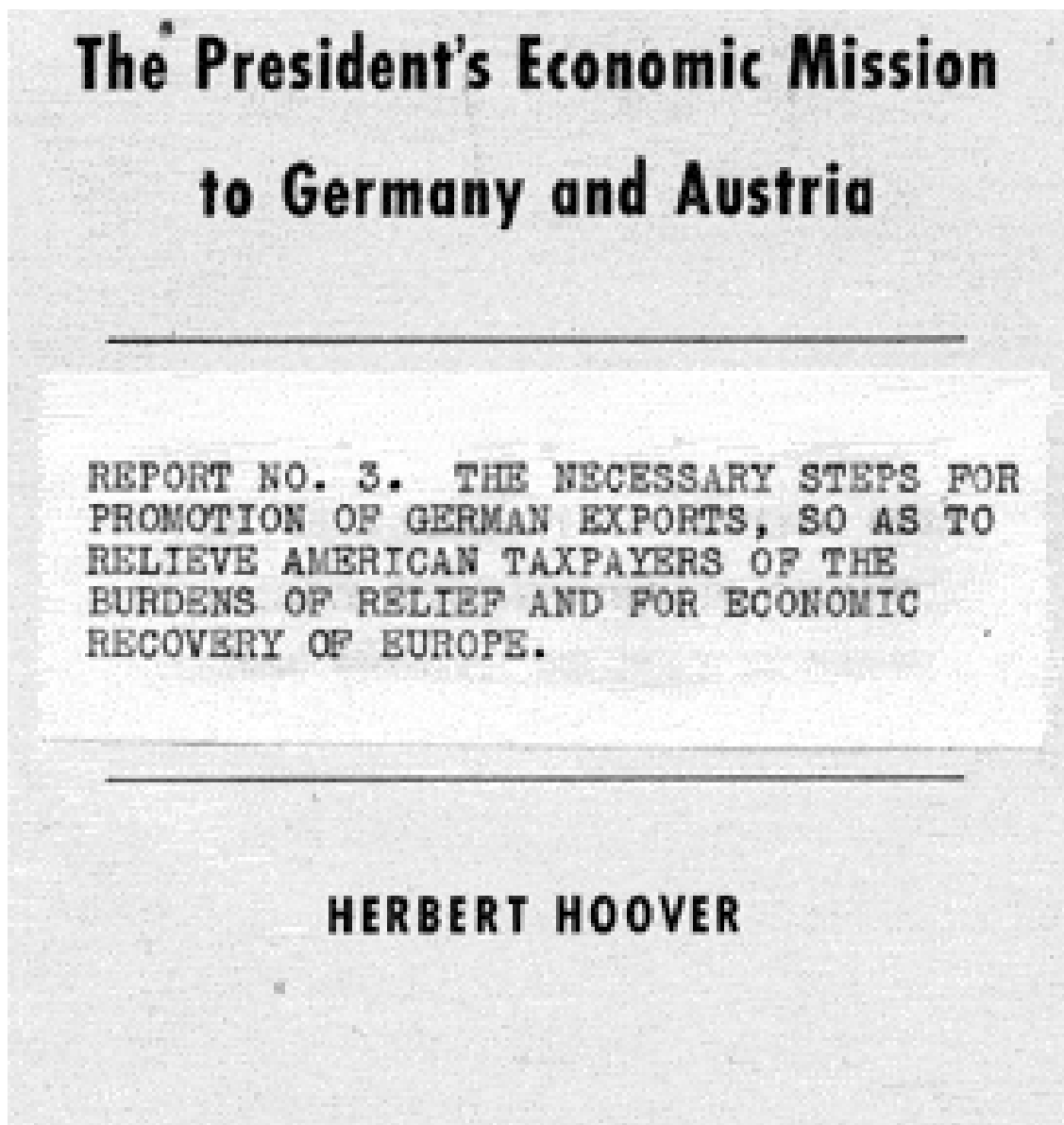
Figure 5.10: Object 3; cover page of Herbert Hoover's report no. 3 on his visit to Germany and Austria during the winter 1946/47. Based on statistics and information by OMGUS, Hoover recommended the 'promotion of German exports, so as to relieve the American taxpayer of the burden of European relief and recovery'. His report provided a great deal of the political momentum for occupation policy JCS 1779 and the Marshall Plan that promoted Germany's industrial production.
Source: Herbert Hoover, *Truman Library : Official File, Truman Papers, 18 March 1947 : Report No. 3 - The Necessary Steps for Promotion of German Exports, so as to Relieve American Taxpayers of the Burdens of Relief and for Economic Recovery of Europe*, March 1947.

starving during the winter 1946/47, giving Hoover's report and the cognitive artefacts it contained a close correspondence with actual events. Herbert Hoover was a very effective chaperone, too. He was a witness because he had seen the misery of the people himself. He was an expert because he was equipped with data about food requirements, the cost of relief etc. He was an authority, amongst other reasons, for his famed achievements in organising Allied food supply during World War I at the US Food Administration. It could even be argued that, as former President of the United States, Hoover was a celebrity. Moreover, Hoover included cognitive artefacts into his report that had 'character' and were therefore likely to travel well.[126] For example, Hoover included the rather chilling numerical artefact into his report that making Germany into 'pastoral state' required the US to 'exterminate or move 25,000,000 people out of it', to give her the same population density as France.[127] Finally, the Hoover Report travelled on several vehicles and reached different audiences: on the one hand, the Hoover Report was an administrative document that had been commissioned by President Truman. On the other, the report was published through news agencies to the media.

5.5 Analytical conclusions: Themes from the case

Between mid-1945 and early 1946 the pro-industry camp of OMGUS consolidated its control over the production and circulation of cognitive artefacts. In the terminology of the Travelling Facts project, actors in the pro-industry camp produced and managed their own cognitive artefacts so that they 'travelled well', with integrity and fruitfully.[128] In addition, the pro-industry camp made its own cognitive artefacts travel well by preventing others from travelling at all. That allows us to make an addition to the Facts project, which does not discuss 'travelling well' as absence of travelling competition. Using both measures, the pro-industry camp succeeded to spread its story about Germany's economy, legitimising the policy shift to which it aspired. In April 1947 US occupation

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[126]Morgan, 'Travelling Facts', p. 33.
[127]ibid., p. 33; Hoover, *Report No. 3*, p. 12.
[128]Morgan, 'Travelling Facts', pp. 12, 13, 18.

policy changed from restricting to promoting Germany's industrial production.

Actors in the pro-industry camp managed the initial production and circulation of their cognitive artefacts in a number of ways. First, by controlling as many resources for the production of artefacts as possible; second, by controlling access to the prime vehicle on which artefacts travelled; third, by packaging complicated and ambiguous artefacts into a simple and straightforward narrative that travelled well on newsreel film and in the press; fourth, by enlisting a broad range and a large numbers of chaperones. The Hoover Report from March 1947, crucial in providing the momentum for the policy shift, had many of these features and we might say that it travelled extremely well.

The limitations of legitimising agency by managing the production and circulation of cognitive artefacts became evident, too. Actual events did not line up with what cognitive artefacts predicted. Actors managed the resulting discrepancies by iteratively producing and circulating artefacts. In these iterations, actors produced cognitive artefacts in which they adapted the value of provisional numbers or chose to produce entirely different types of artefacts. Actors retroactively changed features of old artefacts from rigid to provisional as well. Hence we argued that Lampland's provisional numbers do not only 'decay' as time passes. Actors purposely retire and activate provisional numbers, too. More generally, the case gave us additional insight into the forces that drive the evolution of cognitive artefacts. In the first two cases we have seen that actors develop their artefacts after negotiation partners reject them. The current case shows us that actors modify their artefacts so that they represent what is actually happening.

Moreover, the case has highlighted that legitimising agency through cognitive artefacts is not a one-off problem. We have seen that refining the production of cognitive artefacts and making them travel well required actors to pay continuous attention and show a great deal of endurance. That aspect is not a general feature in the Travelling Facts project. It appears occasionally though, e.g., in the

study of Naomi Oreskes (2011).[129] She investigates the difficulties of making facts about climate change travel to the general public in the face of competing interests. More generally, I want to suggest that legitimising political agency through cognitive artefacts is a prolonged process with a high, possibly endless number of iterations.

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[129]Naomi Oreskes, 'My Facts Are Better Than Your Facts: Spreading Good News about Global Warming', chap. 5 in *How Well Do Facts Travel? : The Dissemination of Reliable Knowledge*, ed. Peter Howlett and Mary S. Morgan (Cambridge: Cambridge University Press, 2011), 136–66.

6 Conclusions

Contents

6.1 Analytical conclusions

Political actors remade Europe's economic landscape between 1917 and 1947 through cognitive artefacts. Cognitive artefacts were maps, data maps, statistical tables and graphs relating to aspects that actors were dealing with. Cognitive artefacts give us additional insight into the diplomatic process because they complement the textual and verbal record we have. When it comes to concrete, tangible outcomes, actors remain vague in their statements, but they are explicit in their cognitive artefacts. By analysing the cognitive artefacts of actors, we could see that the diplomatic results they achieved were neither the outcome of a rational calculation nor of a policy discourse. Instead, actors jointly developed ad hoc ways of reasoning that were synthetic, open-ended and contained both rational and ideational elements. These joint ways of reasoning were specific enough to yield diplomatic results and general enough for actors to maintain their own views.

In coming to an agreement, diplomatic actors go through a process in which they are aligning their agency. In the cases, we could observe four aspects of this process in which actors are using cognitive artefacts. First, actors identify scope and structure of their individual agency; second, actors identify scope and structure of their joint agency; third, actors coordinate concrete political

decisions with broader strategic aims; fourth, actors grind out or even create shared interests. Actors that are aligning their agency are cooperating. That has raised the question how cognitive artefacts relate to Star and Griesemer's boundary objects, which allow actors from different social spheres to cooperate without having a consensus.[1] We have identified a number of differences that lead us to conclude that cognitive artefacts are not boundary objects, despite occasionally displaying similarities. Boundary objects mediate between the positions of actors while actors use cognitive artefacts to sharpen their individual positions.[2] Boundary objects provide multi-way translations of an issue while cognitive artefacts are singular, at best partly compatible accounts.[3] Boundary objects emerge when actors cooperate, but cognitive artefacts serve actors to identify conditions and scope of their cooperation.[4] Lastly, boundary objects 'maintain the integrity' of diverging interests whereas actors use cognitive artefacts to legitimise their agency, possibly against other interests.[5]

The different functions of boundary objects and cognitive artefacts point to a difference in the respective social processes in which they are used. Cooperation is a given for actors that are using boundary objects. In contrast, cooperation is uncertain for the political actors that are using cognitive artefacts. Political actors manage and gradually reduce that uncertainty by iteratively producing, circulating, rejecting and modifying cognitive artefacts. The key element in that iterative process is the internal structure of cognitive artefacts. Cognitive artefacts are 'internally heterogeneous', like Star and Griesemer argue for boundary objects.[6] Initially, I have specified the internal structure of cognitive artefacts as consisting of features that actors take to be rigid, flexible or stabilised. The features an actor takes as rigid define the outer limits of his agency. Features an actor considers as flexible structure his agency internally. A diplomatic outcome is a stabilised feature, neither rigid nor flexible by itself, but dependent on other features.

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[1]Star and Griesemer, 'Boundary Objects', p. 388.
[2]Ibid., p. 389.
[3]Ibid., pp. 389-91.
[4]Ibid., p. 408.
[5]Ibid., pp. 389, 413-4.
[6]Ibid., p. 408.

The cases have shown that the internal structure of cognitive artefacts develops as actors go through a diplomatic process. At the beginning, different actors consider different features as rigid, flexible and stabilised. At the end, if the diplomatic process has not broken down, they have worked out a shared set of rigid, flexible and stabilised features. The internal heterogeneity of cognitive artefacts gives actors space to reason, but it does not necessarily provide them with reasoning resources. To exemplify, the map of one actor considers people to be rigid, another actor's map considers them to be flexible. Yet, the question how actors ultimately agree to treat people, or if they get to agree at all, might be resolved outside their maps. As actors go through iterations of cognitive artefacts, their cooperation as well as their noncooperation take shape. Through their iterations actors might produce cognitive artefacts that share some characteristics with boundary objects, but lack many others. In the cases, examples of such cognitive artefacts were the map of the Polish border in the Treaty of Versailles or the Spa percentages. Like boundary objects, these cognitive artefacts allowed actors with diverging views to cooperate. Unlike boundary objects, however, these cognitive artefacts did not emerge from existing cooperation, but were forged with persuasion, coercion and deceit to enable cooperation.

The results of the cases suggest that we revise our specification of the internal structure of cognitive artefacts. First, actors do not take features to be rigid or flexible in an absolute sense, but relative to other features. Second, in one and the same cognitive artefact an actor can consider a feature rigid in one place and flexible in another. Third, cognitive artefacts have *false features*, too. In each case, drawing on Lampland's notion of 'false numbers', we have identified cognitive artefacts with features that actors regarded as neither rigid nor flexible nor stabilised, but as false.[7] As in Lampland's systematic, there are three types of false features. They can be literally false, provisional in a temporary sense and provisional in a conditional sense.[8] Moreover, false features are not necessarily left to decay, actors may purposely retire and activate them. Like Lampland's false

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[7]Lampland, 'False numbers as formalizing practices'.
[8]Ibid., pp. 387-94, 384, 384-7.

numbers, false features make 'stability and fixity of representation' possible, rather than subverting it.[9]

For actors that are using cognitive artefacts, aligning their agency is bound up with legitimising their agency. That shapes both cognitive artefacts and the iterative process in which they are used. The cases have shown that an actor produces a cognitive artefact so that its internal structure legitimises his desired outcome. That is, an actor considers those features as rigid, flexible and false that yield his preferred stabilised feature. We have seen, too, that actors legitimise their agency after the fact by producing cognitive artefacts with an appropriate internal structure. Furthermore, actors produce cognitive artefacts with features that have to be false so that a desired outcome is stabilised; actors seek to control which cognitive artefacts are produced at all; actors retroactively modify cognitive artefacts, e.g., by retiring and activating provisional features. In the analytical terminology of the Travelling Facts project we have traced the efforts of actors to legitimise their agency by managing the circulation of cognitive artefacts.[10] Actors seek to control access to the 'vehicles' on which cognitive artefacts circulate, with the intention of making some 'travel well' and making others travel poorly.[11] Actors 'package' cognitive artefacts so that they travel well on certain vehicles, e.g., complex and ambiguous cognitive artefacts are packaged into catchy and straightforward 'narratives' that travel well on film and in the press.[12] Actors enlist 'chaperones' so that their cognitive artefacts travel well, too.[13] Lastly, as an addition to the Facts project, we have identified actors making their own cognitive artefacts travel well by preventing others from travelling at all, i.e., by shutting down travelling competition.

One of the protagonists of our cases, the American geographer Isaiah Bowman, has put forward the term 'map language' in describing high-level diplomacy in Paris after World War I. We have considered extending Bowman's term to a *language of cognitive artefacts* because cognitive artefacts form a network of

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[9]Lampland, 'False numbers as formalizing practices', p. 380.
[10]Howlett and Morgan, *How Well do Facts Travel?*
[11]Morgan, 'Travelling Facts', pp. 25, 27.
[12]Ibid., pp. 27-8.
[13]Ibid., p. 30.

reasoning, communicating and arguing. The language label does not fit very well though because cognitive artefacts have different qualities, serve different purposes and achieve different things than verbal and written statements. So thinking and speaking of a *technique of cognitive artefacts* would be better, to not obliterate their specifically numerical, visual, spatial and hybrid qualities.

6.2 Historical conclusions

What are we gaining as historians from cognitive artefacts and the role they play in political processes? A rough bibliometric estimate on the four cases of this study indicates that diplomacy after World War I has drawn a disproportionately large share of critical scholarship. It seems that there is a strong motivation to explain the negative experience of the interwar years and World War II through mistakes made after 1918. Whatever the reasons, as a consequence we might have a skewed picture. Possibly we are misjudging the impact that political actors had on the course of the 20$^{\text{th}}$ century.

Diplomacy after World War I is often characterised as a failure. Regarding borders, Sharp points out that politicians could not 'reconcile the irreconcilable' and Steiner argues that 'no one understood [their] full complexity'.[14] Regarding reparations, a great deal of the literature starts with the observation that they were a shambles to then work back and trace individual and collective shortcomings.[15] Through the analysis of cognitive artefacts we get a different perspective. Rather than diagnosing failure we recognise achievement. Politicians after World War I developed a remarkable synthesis of interests and considerations despite not understanding the full complexity of the border problem. Considering the obstacles that had to be overcome, reparations diplomacy produced a pretty good result, maybe the best possible. In short, this study alerts us to evaluate historical figures and their actions with due consideration of the constraints and opportunities they had *in situ*. Cognitive

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[14]Sharp, *The Versailles Settlement*, pp. 161-8; Steiner, *The Lights that Failed*, p. 82.

[15]Keynes, *A revision of the treaty*; Mantoux, *The Carthaginian Peace*; Trachtenberg, *Reparation in World Politics*; Kent, *The Spoils of War*.

artefacts enable us to do a better job at that than the linguistic record alone.

A point closely related is the explanatory power we ascribe to diplomacy for macro developments that chronologically followed. Poland's borders after World War II have been rigid for more than 70 years now. But nobody would say that that is because those who made them in the first place understood their complexity. Indeed, probably no one would argue that Roosevelt, Stalin and Churchill fully understood what they were doing in the 1940s. So why are we inclined to think that a poor performance of Lloyd George, Millerand or Wilson was responsible for borders and reparations that remained contentious beyond 1919 and 1921, respectively?

The 2011 study of Wolf, Schulze and Heinemeyer on trade and borders after the Paris Peace Conference exemplifies the systematic problem.[16] The 'failure of border diplomacy' on the one hand and its 'detrimental economic consequences' on the other have formed a neat pair of cause and effect for almost an entire century. However, Wolf et al show that the economic effects of the new borders 'were quite limited'.[17] So Lloyd George and his colleagues were either lucky or, more likely, they got something right. As historians, considering cognitive artefacts improves our historical judgement of diplomatic processes and actors. Consequently, we are better placed to evaluate the impact they had or did not have on subsequent developments.

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[16]Wolf, Schulze and Heinemeyer, 'Economic Consequences of the Peace'.
[17]Ibid., 915.

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