

## MARS AND MINERVA: CENTRES OF GEOGRAPHICAL CALCULATION IN AN AGE OF TOTAL WAR

With 2 figures and 1 table

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*Zusammenfassung:* Mars und Minerva: Zentren geographischer Kalkulation im Zeitalter des totalen Krieges

In dem Beitrag werden die politische und strategische Bedeutung geographischer Forschung während des Ersten Weltkriegs untersucht und verschiedene, sich daraus ergebende Konsequenzen für die Entwicklung der Geographie als Disziplin herausgestellt. Aufbauend auf jüngsten Arbeiten zur Geschichte der Geographie und der sozialen und kulturellen Kriegsgeschichte wird gezeigt, wie in den drei Alliierten Nationen Großbritannien, Frankreich und den USA die Expertise anerkannter Geographen von politischen und militärischen Führern für eigene Zwecke ‚mobilisiert‘ wurde. Da die große Bedeutung geographischen Wissens sowohl für die Entwicklung der strategischen und militärischen Nahziele als auch für die Formulierung weiterführender geopolitischer Kriegsziele erkannt worden war, wurden in allen drei Staaten, unter Führung der wichtigsten Geographischen Gesellschaften, Forschungsprojekte koordiniert und neue Forschungsinitiativen entwickelt, um die militärische und politische Führung zu unterstützen. Die Rhetorik der Vorkriegszeit, die einen unparteiischen, objektiven und internationalen Charakter geographischer Forschung betonte, erfuhr dabei jeweils eine vehemente Ablehnung. Obgleich angeblich einer gemeinsamen Sache verpflichtet, spiegeln die auf den Krieg bezogenen Arbeiten britischer, französischer und amerikanischer Geographen auch divergierende nationale Traditionen intellektueller Auseinandersetzung sowie verschiedene strategische und geopolitische Absichten der jeweiligen Staaten wider. Abschließend erfolgt eine Diskussion der moralischen und ethischen Fragen, die sich aus einer Kriegsbeteiligung der Wissenschaften ergeben.

*Summary:* This article examines both the political and strategic significance of geographical research during World War I and the wider impact of this period on the development of the discipline. Drawing on recent work on the history of geography and on the social and cultural history of war, the essay considers how the expertise of renowned geographers was ‘mobilised’ by the political and military leaderships in three Allied nations: Britain, France and the USA. Geographical knowledge was clearly recognised as important both for the development of strategic military objectives and in the formulation of wider geopolitical war aims. As a result, co-ordinated projects and new research initiatives were developed in each of these three states, centred on the principal geographical societies, to assist the military and political authorities. In each case, a pre-war scientific rhetoric that had emphasised the disinterested, objective and international nature of geographical inquiry was firmly rejected. Although ostensibly committed to a common cause, the war-time activities of British, French and American geographers also reflected divergent national intellectual traditions and the very different strategic and geopolitical objectives of each state. The essay concludes with a discussion of the moral and ethical questions raised by deployment of science in time of war.

### Introduction

In 1932, Albert Einstein was asked by the League of Nations’ Permanent Committee for Literature and the Arts to initiate a public debate with an intellectual of his choosing on a topic pertinent to the cause of international peace. Einstein suggested a deceptively simple question – Why War? – and proposed to debate this with none other than Sigmund Freud. Thus it was that “physics wrote a letter to psychoanalysis” seeking an answer to a central conundrum of the modern era (PICK 1993, 270). Behind Einstein’s choice of topic was a simple rationale: exactly a century earlier, Carl

von Clausewitz’s essay *On War* had inaugurated the modern, ‘scientific’ study of war. The intervening decades had been the bloodiest and most violent in world history and events in Germany, Einstein’s native land, suggested that the martial impulse was about to plunge the world into yet another episode of total war. The idea that 1914–18 had been “a war to end all war”, as H. G. Wells (WELLS 1917) had famously asserted, seemed hopelessly optimistic. A century of unheralded scientific advance in the natural and physical sciences had transformed our understanding of the world and its place in the cosmos, implied Einstein, but had singularly failed to explain the human capacity for violence. Perhaps Freudian psychoanalysis, the new science of the human consciousness, might shed some light on humanity’s seemingly irrational and inexplicable blood-lust?

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The text of this debate, which was published the following year, just as Hitler came to power, did not make for cheerful reading (EINSTEIN a. FREUD 1978; PICK 1993, 214–227). War, it appeared, was a problem neither physics nor psychoanalysis could solve. Indeed, both men recognised a tragic irony at the core of their discussion. Modern science had not only failed to understand war, it had actually become a central component of what a later generation would call the 'military-industrial complex'. Despite the peaceful intentions of most scientists, the fruits of scientific endeavour always seemed to escape the grasp of its creators. Like Frankenstein's monster, an increasingly effective 'war machine' seemed to stalk the earth beyond the control of those who had created it. In the struggle to end war, science was no longer a potential solution; it was part of the problem.

This irony has inspired a good deal of critical research on the historical relationship between war and science, between Mars and Minerva if it can be so expressed (GRUBER 1976). There is now an impressive literature on the military and political manipulation of science, with research on Germany during World War II having particular importance (BEYERCHEN 1977; BURLEIGH 1994; BURLEIGH a. WIPPERMANN 1991; GEISSLER a. POPP 1988; HAMMERSTEIN 1999; MACRAKIS 1993; MÜLLER-HILL 1988; WEINDLING 1989). The historical relationship between geography as an academic discipline and warfare has also begun to receive critical attention (for an early study, see LACOSTE 1976). We now have outstanding recent studies of this relationship for various war-torn eras from the age of Napoleon (GODLEWSKA 1994, 1999, esp. 149–190) through the early years of the twentieth century (STODDART 1992) and World War II (BALCHIN 1987; BASSIN 1987; EBELING 1994; FAHLBUSCH et al. 1989; HARRIS 1997; HERB 1997; HESKE 1986, 1987; HIPPLER 1996; KIRBY 1994; KORINMAN 1990; KOST 1989; MURPHY 1997; RÖSSLER 1989; SMITH 1986) to the post-1945 period of the Cold War where work on the origins and early history of Remote Sensing and Geographical Information Systems have added new dimensions to our understanding of the martial aspects, and disturbing social implications, of modern geographical inquiry (CLOUD 2000; CURRY 1997; PICKLES 1985).

These new histories of geography form part of a wider critical re-assessment of the discipline's origins and development (BELL et al. 1995; GODLEWSKA a. SMITH 1994; LIVINGSTONE 1992) and resonate with a disparate, and often very disturbing, body of work on what might be called (for want of a better expression) the intellectual history of war, a literature that owes

much to Paul Fussell's pioneering analysis of World War I (FUSSELL 1975; see also EKSTEINS 1989; HYNES 1985; LEED 1979; PICK 1993; THEWELEIT 1987/88; VIRILIO a. LOTRINGER 1989). The themes explored in these admittedly diverse texts – violence, modernity, masculinity and place – connect, in turn, with recent path-breaking feminist critiques of militarism and the political economy of warfare (see, for example, BOURKE 1996, 1999; COOKE a. WOOLLACOTT 1993; ENLOE 1988; HIGONNET et al. 1987; MELMAN 1998; TYLEE 1990). One of the most interesting features of this work is its explicit engagement with the spaces of warfare, a theme that has inspired fresh analysis of the geographies of violence, past and present (Ó TUATHAIL 1996; see also BLUNT 2000; CAMPBELL 1998; SHAPIRO 1997; WATTS 2000).

There is much that could be written here but I want simply to emphasise that a greater awareness of the interwoven intellectual histories of the discipline of geography and the practice of war is urgently necessary if we are to understand how space and territory have functioned both in the perpetuation of violence and in attempts to resolve conflict. I want to try to demonstrate this by considering how the discipline of geography was implicated in the crisis of World War I (for studies of other disciplines, see HABER 1986; JOHNSON 1990; SCHWABE 1969). In so doing, I want to tell a tale of three cities – London, Paris and New York – as centres of distinct forms of geographical theory and practice each sustained by war-time exigencies. I shall be concerned, in particular, with the major geographical societies in these cities – the Royal Geographical Society in London (RGS), the *Société de Géographie de Paris* (SGP), and the American Geographical Society in New York (AGS). These august institutions displayed many of the characteristics that the sociologist of science Bruno Latour (LATOUR 1987, 215–257) attributes to 'centres of calculation', a concept broadly comparable with the idea of an 'imperial archive' proposed by the literary critic Thomas Richards (RICHARDS 1993). 'Centres of calculation' (which might include learned societies, museums, even specific individuals) were the clearing houses for what Latour calls 'immutable mobiles', those items of stored, catalogued information that made 'knowledge at a distance' possible for imperial powers whose strategic and geopolitical interests straddled the globe. As 'centres of calculation' were the nodes through which important information circulated, and where it was ultimately stored in a useful, recoverable form, they invariably operated in a liminal space somewhere between the ostensibly disinterested, objective and politically neutral world of science and the overtly political world of official ministries and govern-

ment offices. While it is tempting, and sometimes legitimate, to see 'centres of calculation' as specific institutions, concrete manifestations of the familiar idea that 'knowledge is power', both Latour and Richards provide a much more complex and subtle analysis. For Richards, in particular, the relationship between knowledge and power has always been mediated by acts of will; by a fantasy about the importance of information which, in certain circumstances, translated into real power over real territory and real people:

'The archive was not a building, nor even a collection of texts, but the *collectively imagined* junction of all that was known or knowable (emphasis added) ... [But] what began as utopian fictions of knowledge ... often ended as territory. [The archive was] an order of social imagination so powerful that it could, in effect, construct social reality ... [It was] a prototype for a global system of domination through circulation, an apparatus for controlling territory by producing, distributing, and consuming information about it' (RICHARDS 1983, 11, 16–17).

### *A Tale of Three Cities*

#### *1 London: An Imperial Archive*

In August 1914, the RGS was by some distance the largest, wealthiest and most successful geographical society in the world with over 5,300 Fellows (HEFFERNAN 1996). Its ruling Council was a roll-call of Britain's imperial establishment. Thanks largely to the energetic patronage of Lord Curzon, former Vice-Roy of India and subsequently Foreign Secretary, the RGS had recently acquired the palatial buildings in Kensington Gore which it still occupies. This newly refurbished building gave the Society a prime location at the very heart of 'scientific London', that overlapping network of Victorian museums, research institutes and learned societies which dominated the landscape of Kensington. The short walk to the RGS from the South Kensington underground railway station took the visitor, then as now, past the imposing Natural History Museum, the Science Museum, the Victoria and Albert Museum, Imperial College of Science and Technology plus several major Embassies. This area, more than anywhere else in London, encapsulated the idea of an 'imperial archive', the 'calculating centre' of the British imperial state. If the 'heart' of the British Empire was to be found further east in the echoing corridors of Whitehall or in the financial institutions of the City of London, the brain of empire was located in Kensington.

On 31 July 1914, two days before news reached London of the German invasion of Belgium and France

and four days before Britain declared war, Curzon's successor as President of the RGS, Douglas Freshfield, placed the personnel and resources of the Society, including its impressive map collection, at the disposal of the British War Office in accordance with policy agreed a decade earlier in 1904. From that day until the end of the war, the RGS became a significant institutional focus of British military intelligence. The existing directors, led by successive Secretaries, Sir John Scott Keltie and Arthur Hinks, and by Freshfield's war-time successor as President, Sir Thomas Holdich, were supplemented by dozens of mainly female secretarial and cartographic staff and by a shadowy group of intelligence officers associated with both the Geographical Section of the General Staff (GSGS) of the War Office and the Naval Intelligence Department (NID) of the Admiralty (ANON 1919).<sup>1)</sup> GSGS was the oldest bureau in the expanding network of institutions that made up the British intelligence community (ANDREW 1985, 259). It was headed by Colonel (later Sir) Walter Coote Hedley whose full-time staff of twenty-four officers were responsible for the production and collation of specialist (and generally secret) maps for official and military use. In view of its map-making role, GSGS had close relations with the Ordnance Survey (OS) whose Director, Charles (later Sir Charles) Close, had been its former chief. Indeed, GSGS and the OS effectively fused into a single operation between 1914 and 1919 and oversaw the production of the estimated 32 million map sheets for the British 'war machine' issued during that period (some 21,000 per day), mostly in the form of large-scale trench maps (CHASSEAUD 1991, 1998). The other intelligence agency that also acquired offices in the RGS was NID, headed by the charismatic Admiral (later Sir) William 'Blinker' Hall.

Lectures by invited academics and dignitaries continued in the RGS throughout the war and most were published in the *Geographical Journal*. Several lecturers, perhaps the majority, concerned themselves with various aspects of the war and a few were openly critical of Britain's political and military leadership, not least for failing to take seriously the country's store of geographical expertise, a theme which became especially prevalent after the disaster of the 1915 campaign at Gallipoli (HOGARTH 1915; RGS 1917). Some of these lectures made use of thematic propa-

<sup>1)</sup> This section is based on the unpublished correspondence of leading RGS Fellows, particularly Freshfield, Keltie, Hinks and Holdich, available in the RGS archives in London. It develops arguments put forward in greater detail in HEFFERNAN (1996).

ganda 'shock' maps, produced by RGS cartographers, variants of which sometimes ended up in the national press (Fig. 1).

Following complicated and acrimonious discussion (in which GSGS and NID clearly had different agenda), it was also agreed that the RGS should begin official map work to complement the industrial style cartographic production undertaken at the OS. The Society was instructed to produce a new series of map sheets, covering Europe and the Middle East at the 1:1 million scale. The idea of an international 1:1 million map of the world had been widely discussed from the 1890s onwards. Ironically, it was first mooted by Albrecht Penck, the great German geomorphologist who was to succeed Max Planck as Rector of Berlin University in 1917 (PENCK 1892; ROBIC 1996). The 'international map', as it was often called, was originally intended as a joint venture involving all the major cartographic agencies around the world based on standard symbols and conventions. The four centuries of continuous exploration and map-making that began with Columbus, Penck reasoned, had provided sufficient information on all parts of the habitable earth for a new, international map of the world at the 1:1 million scale to be constructed. This would be a perfect *fin-de-siècle* celebration of the closing of the 'Columbian age', reasoned Penck and his supporters, and would likewise mark the beginning of a new era of twentieth-century internationalism. Despite agreements at lavish international conferences in London (1909) and Paris (1913), little progress was made, a reflection of precisely the kind of mutual suspicion and international rivalry that the project was designed to overcome.<sup>2)</sup>

If the RGS could complete the European and Middle Eastern section of the 'international map' based on British rather than international symbols and conventions, this would have significant propaganda value. Assuming an Allied victory, it was hoped that such a map could be presented as the legitimate 'offspring' of the original international map. Mass-produced versions of the various sheets could quickly be made available as the base maps for the peace negotiations that would follow the war. The explicit objective was to ensure that the new political boundaries of Europe and the Middle East would be shown to an expectant world on a British map designed and produced by British cartographers in London, an ambition

openly discussed in an editorial in *The Times* (ANON 1915). To underscore the propaganda impact of the new map, it was also anticipated that thematically modified versions of individual sheets (showing a range of other variables such as ethnicity and language) could also be produced to undermine the claims of the Central Powers and reinforce the legitimacy of the Allied geopolitical ideals. Militarily, it was also hoped (particularly by the intelligence officers in the NID) that the new 1:1 million sheets would be useful strategically in the less effectively mapped Ottoman lands of the Middle East (on cartographic innovations in these regions, see COLLIER 1994; GAVISH a. BIGER 1985).

To some extent, these ambitions were realised. By the end of the war, ninety 1:1 million map sheets had been produced by the RGS covering the whole of Europe, the Middle East and North Africa. Most had been derived from existing foreign maps at different scales but many of the Russian and Ottoman sheets had been based on intelligence reports supplied by British military attachés with the Tsarist armies in the east or by intelligence officers operating in the Middle East, including T. E. Lawrence, D. G. Hogarth, Gertrude Bell and W. H. I. Shakespear.

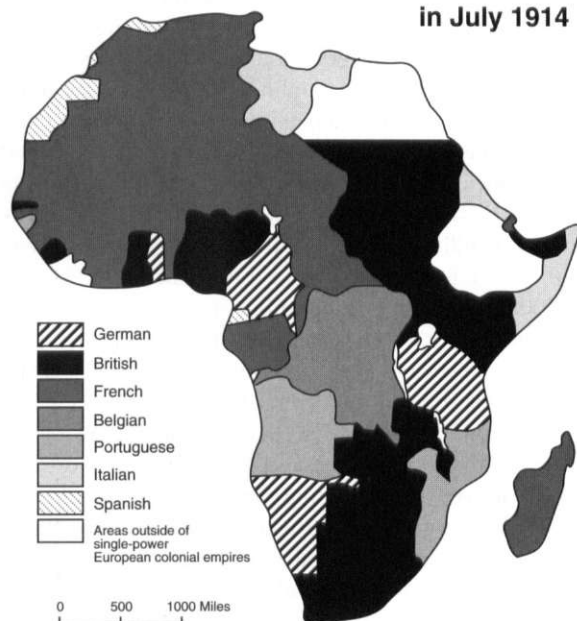
The RGS 1:1 million sheets were indeed used as one of the principal base maps for the Paris Peace Conferences in 1919–1920 but their military importance was minimal. For the most part, the war was fought along the static quagmire of trenches, a troglodyte world of mass killing that gave a tragic irony to the continental, indeed global, imagination of those labouring over their maps in the RGS. But such cartographic visions gave sustenance to those, the so-called 'Easterners' in the British political and military establishment, who had campaigned throughout the war for a more assertive non-European, imperial alternative to the deadlock in Europe, one which would allow Britain's under-used naval power to be deployed against the relatively weak Ottoman Empire. Despite the failure of the attempt to capture Constantinople through the hell-fire of Gallipoli in 1915, the RGS (particularly the NID section of its operation under the direction of D. G. Hogarth) was a significant metropolitan focus promoting T. E. Lawrence's plan for a naval attack on the Middle East, coupled with an Arab Revolt, a campaign that paved the way for Britain's post-war imperial dominance of the Middle East (HEFFERNAN 1996).

World War I proved to be a successful period for British geography. The subject had been taught in several British universities in 1914 but there were no Honours Schools and its position in secondary schools was by no means secure. Ten years later, no fewer than

<sup>2)</sup> The USA withdrew from discussions immediately after the 1909 London conference to pursue its own ambitions to map South America at the 1:1 million scale unimpeded by international agreements and conventions. See WRIGHT (1952, 300–319).



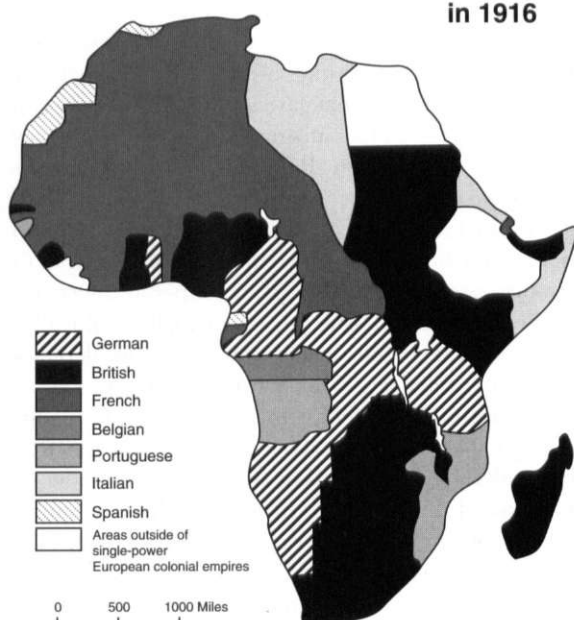
### The Political Geography of Africa in July 1914



*Note:* The first map in this sequence shows the political geography of Africa in July 1914, on the eve of the war; the second map shows the political geography of Africa "as it might have been in 1916" had Germany won a quick victory in 1914; and the third map shows the political geography of Africa "as it may be when the war is finished" and an Allied victory assured.

These maps were produced for a lecture delivered on 24 February 1915 at the RGS by Sir Harry Johnston; the African explorer and colonial administrator. They were designed to show the scale of German geopolitical ambitions around the world and to underscore the threat Germany posed to British imperial interests. One of the more intriguing aspects of these images and the accompanying text - described by the *New York Times* (5 May 1915, 2) as "the most important unofficial document that has crossed the Atlantic since the beginning of the war" - was Johnston's analysis of Italy's future role in Africa. When Johnston delivered his lecture, Italy was still neutral but both his second and third maps show a hugely expanded Italian Libya. Although there is no reference to Italian territorial ambitions in the published text of the lecture, Johnston clearly recognized that even a neutral Italy would have been able to claim a substantial slice of French and British African territory if Germany had won the war. The fact that Johnston appeared to accept the legitimacy of Italian territorial claims in this third map, which was predicated on an Allied rather than a German victory, demonstrates his awareness of the secret plans being hatched in London and Paris to draw Italy into the war on the Allied side in return for colonial territorial concessions in the Ottoman Empire and Africa. These were the very proposals subsequently accepted by the Italian government at the Treaty of London, which was signed on 26 April 1915, as the condition for a declaration of war against Germany. They were also, of course, the proposals largely ignored by the British and French governments, to the outrage of the Italian delegation, at the Peace Conferences in 1919.

### Africa as it might have been in 1916



### Africa as it may be when the war is finished

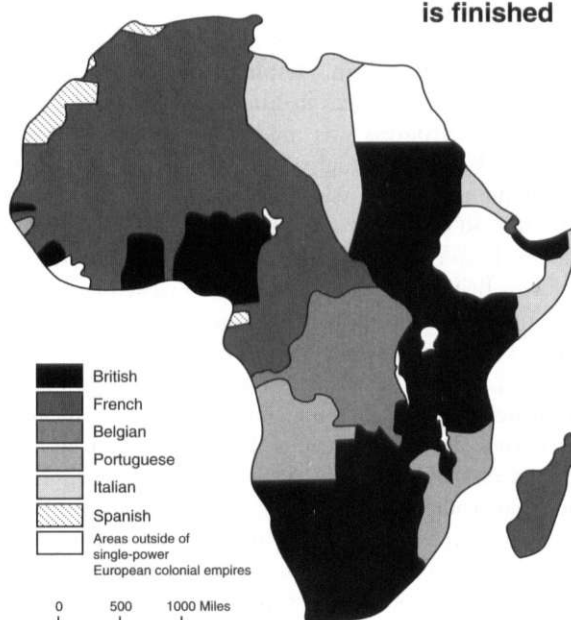


Fig. 1: Simplified versions of British propaganda maps, based on the original colour maps prepared in the RGS in early 1915  
Source: JOHNSTON (1915)

Vereinfachte Darstellung britischer Propagandakarten auf der Basis farbiger Originalkarten der RGS von Anfang 1915

eight British universities had established geography departments (KELTIE 1921). The discipline's success in these dark days reflected a belated awareness that the study of Britain's changing place in an uncertain world should lie at the heart of any national educational programme that aspired to produce patriotic, socially responsible citizens. The rising international tension before 1914, and the terrible experience of the war itself, also convinced Britain's military establishment that geography had a strategic value, particularly in times of national crisis.

## 2 Paris: A National Archive

So what of our second 'centre of geographical calculation' in Paris? The *Société de Géographie de Paris* was, like the RGS, a distinguished academic-cum-political club. Established in 1821, nine years earlier than its sister society in London, it was nevertheless much smaller with just 2,000 members in 1914 (HEFFERNAN 1995). But this was a deceptive statistic for, in contrast to Britain which had only three geographical societies worthy of the name (the RGS, the Royal Scottish Geographical Society in Edinburgh and the Manchester Geographical Society), French geography had a much wider national support base with around thirty flourishing societies in provincial cities and towns with a total membership of c. 20,000 (perhaps a third of all the geographers in the world) (SCHNEIDER 1990).

French geography was also better represented in higher education and, partly as a result, had developed a powerful intellectual tradition associated with the distinguished regional school of Paul Vidal de la Blache (BERDOULAY 1981, 141–227; BUTTIMER 1971; SANGUIN 1993). The pre-eminent status of geography in France was a manifestation of two related developments, both originating in the nation's *annus horribilis* of 1870/71, a year that witnessed catastrophic military defeat in the Franco-Prussian war, the loss of a sizeable portion of the country's eastern provinces to the new German Empire, and an extraordinary outburst of class warfare on the streets of Paris during the bloody days of the Commune. For the liberal, patriotic republicans who oversaw the transition to a new, and by no means secure, Third Republic, French society was in urgent need of rejuvenation. Educational reform, designed to promote the kind of vigorous patriotism detected beyond the Rhine, together with a more assertive policy of imperial expansion, designed in part to compensate for the loss of territory and prestige in Europe, were two of the more widely discussed solutions to the perceived national malaise. Geography, an overtly imperial science throughout the nineteenth cen-

tury (HEFFERNAN 1994; LEJEUNE 1993), was the perfect discipline for these circumstances and was allocated a central role in the revised programmes of civic education during the 1880s and 1890s (BROC 1974, 1977).

The SGP, though much smaller than the RGS, was still the heart of the French geographical establishment, enthusiastically supported by both university geographers in Paris and by powerful patrons, including its President in 1914, Prince Roland Bonaparte. The Society's new headquarters was on the Boulevard Saint Germain on the edge of the Latin Quarter on the Left Bank of the Seine, a short walk from the Sorbonne and the *Grandes Écoles* (FIERRO 1983; LEJEUNE 1982). The moment war was declared, the SGP's Secretary, Baron Étienne Hulot offered the Society's map collection, library and other resources to the recently restructured *Service Géographique de l'Armée*, France's equivalent of Britain's GSGS, directed by Général Léon Bourgeois, in the *Ministère de la Guerre* (Fig. 2) (LEVY 1926; MDNG 1938; SGA 1936).<sup>3</sup> Aware of the international renown of French geographers, Bourgeois promptly 'recruited' several of the country's leading practitioners (including de la Blache, Albert Demangeon, Lucien Gallois, Emmanuel de Martonne and Emmanuel de Margerie) to work on a new *Commission de Géographie* producing short reports on the human and physical geography of different European regions for use by the French General Staff (AG 9.N.110; see also HANNA 1996). One of the stranger aspects of this exercise was the deadly serious instruction that these reports should be purged of German geographical expressions such as *hinterland* (BN-SGP 9bis/2316-a).

While this work continued, the monthly public *séances* of the SGP were, like those in the RGS, devoted to geographical studies of the war in different parts of the world and were likewise published in the Society's journal, *La Géographie* (HULOT 1914/15). These included dozens of lectures speculating on the most appropriate political geography of Europe after the war, assuming an Allied victory. The working assumption was that the Austro-Hungarian and the Ottoman Empires would be completely dismantled and the German Empire massively diminished and entirely re-organised (see, for example, HENRY 1917; LEGER 1914/15; LICHTENBERGER 1917). German geographers, including those whose researches had been warmly received before 1914, were roundly criticised as

<sup>3</sup> This section is based on the published and unpublished holdings of the SGP archives, available in the *Salle des Cartes et Plans* of the *Bibliothèque Nationale* in Paris. For a detailed study of the colonial geopolitics of the SGP during World War One, HEFFERNAN (1995).

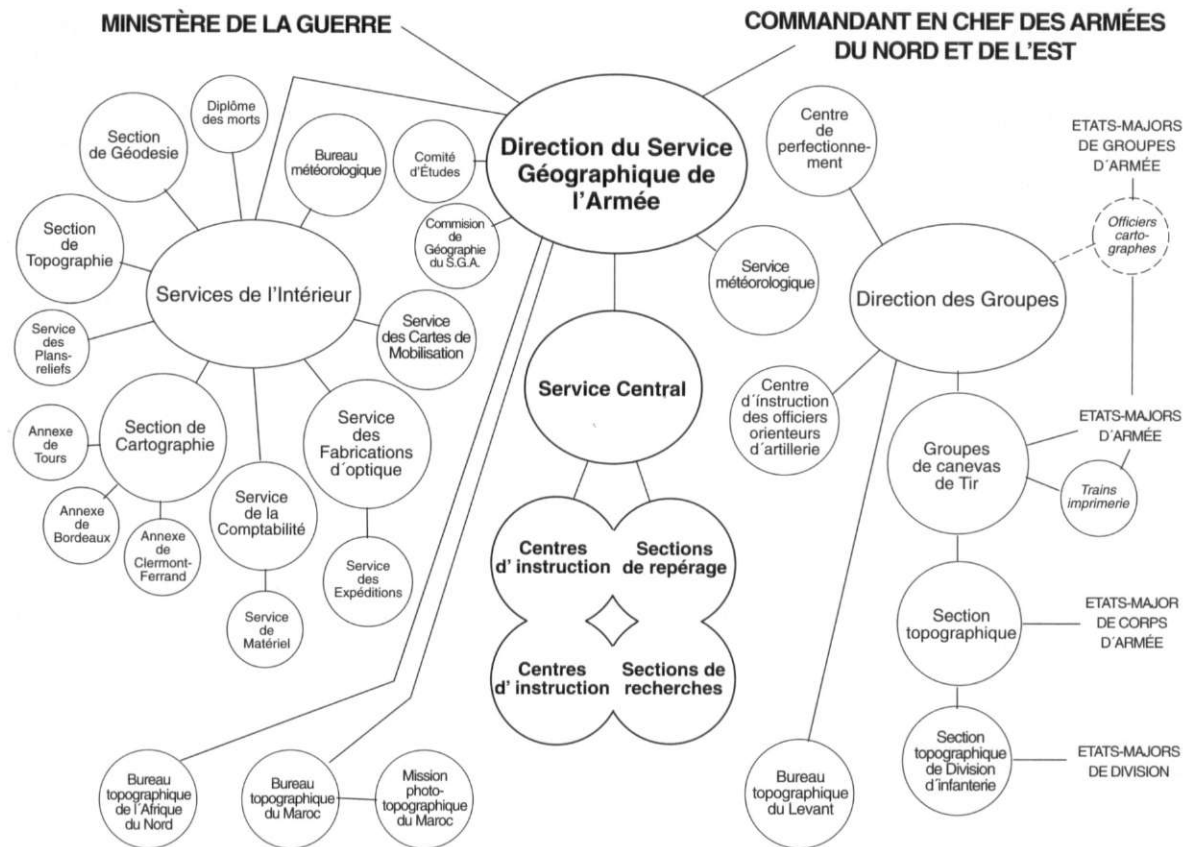


Fig. 2: The structure of the *Service Géographique de l'Armée* during World War I  
Source: LEVY (1926, 208–219)

Struktur des *Service Géographique de l'Armée* während des Ersten Weltkrieges

supine agents of German imperial expansion (RABOT 1914/15). A semi-organised campaign was also waged to influence the political opinions of scientists in neutral countries. De Martonne produced a special SGP leaflet in 1917 detailing the destruction of cherished historical landscapes under German military occupation to be dispatched to academics in neutral countries. When a Professor Hein, from Zurich University, returned the leaflet without comment, a furious de Martonne wrote back on 4 April 1917: "these outrages require more than a shrug of the shoulders ... It is Germany that will carry, for ever, the responsibility for having unleashed the most appalling conflagration in history ... *Gott strafe Deutschland!*" (BN SGP 9bis/2316-b). In general, French geographers seemed less willing than their British counterparts to criticise the military and political establishment, though this possibly reflected the even more draconian censorship restrictions imposed in France (see, for example, MAL-TERRE 1917, an article in which several paragraphs were "supprimé par la Censure").

Over a year into the conflict, by which time France had lost almost a million men, Aristide Briand became the new Prime Minister. A self-styled Radical, Briand rightly understood that public support for the war could not be guaranteed. Many on the Left now believed the war had become an end in itself rather than a means to an end. The absence of wider geopolitical objectives or a higher reason for continuing the slaughter (beyond the simple need to remove German forces from French soil) seemed a disturbing problem. At the same time, representatives from neutral countries, including the USA, had begun to call on all countries involved in the conflict to declare clear war aims that might at least raise the distant prospect of a negotiated peace (STEVENSON 1982).

Briand decided to establish a high-level academic committee, operating alongside the *Commission de Géographie*, to formulate a set of intellectually compelling geopolitical objectives which could form the basis of France's negotiating position following an Allied victory. Four separate committees were established in

February 1916 to devise French territorial claims in respect of the Franco-German border, Central Europe, Africa, and Asia-Oceania. The venue for these weekly committee meetings, which included 60 leading French geographers, historians, economists, geologists and engineers, was the headquarters SGP. Again, the SGP's ostensibly independent scientific status but close connections to government were crucial considerations. Briand, who enjoyed the company of intellectuals, placed his faith firmly in the glittering stars of the French academic firmament in the hope that they would be able to devise a new French vision of Europe and the wider world.

After a year of exhaustive research, in which endless reports were produced by full-time members of these committees plus co-opted experts, the two non-European committees produced provisional reports outlining French policy for the colonial arena (HEFFERNAN 1995). The more important European committees, on the Franco-German border and Central Europe, had yet to complete their deliberations and merged into a single agency in February 1917, the so-called *Comité d'Études* (see Fig. 2). The president of this new committee was the nearest Republican France had to an official historian, Ernest Lavisse; its vice-president was de la Blache, Lavisse's friend and long-time collaborator; and its secretary was de Martonne. Work continued throughout the rest of the war, both at the SGP and at the *Institut de Géographie* in the Sorbonne (BN-SGP 9/2278–2282; BN 9/2284–2287).

On the eve of the Peace Conferences in early 1919, the *Comité* published a huge two-volume report, plus an accompanying atlas, the nearest the French government came to an official statement on the future political geography of Europe (COMITÉ D'ÉTUDES 1918/19; HEFFERNAN 2001). There is much that could be written about this remarkable document but the central point to emphasise here is the overwhelming importance of the Franco-German border, the single topic considered in the first volume. The main objective, which surprised no-one, was to ensure the return to France of the 'lost' provinces of Alsace-Lorraine, plus the economically important area of the Saar coalfield: the re-establishment, in other words, of the cherished *limites naturelles* of the French hexagon. Alsace-Lorraine was presented here in the strongly Lamarckian terms so characteristic of the Vidalian school as a kind of 'social organism', ordained by natural and historical forces to be restored to France (ARCHER 1993). This, at least, was the public version though it should be noted that the members of the *Comité d'Études* were acutely aware of the huge difficulties of reintegrating a region that had been substan-

tially transformed by almost fifty years of German control. But lest anyone doubt the 'indisputable' nature of France's claim to Alsace-Lorraine, the *Comité's* report provided some c. 500 pages of detailed historical, archaeological, architectural, ethnographic, linguistic, economic and sociological evidence by way of proof (see, for a wider comment, MURPHY 1990).

The pressure of this Herculean task probably hastened the demise of Vidal de la Blache, who died before the final report was published, but the work he undertook while involved with the *Comité* lives on in the form of his last, and arguably finest, piece of writing, *La France de l'Est* (VIDAL DE LA BLACHE 1917, esp. 1–6; HEFFERNAN 2001). Vidal de la Blache's fellow geographers on the *Comité d'Études*, including de Martonne, de Margerie, Demangeon, Gallois and Jean Brunhes, were all prominently involved as members of the *Service Géographique Française*, established to advise French political leaders on geographical questions during the Paris Peace Conferences in 1919 and 1920, particularly in respect of the borders of the new states in south-central Europe (see, for example, WILKINSON 1951 and, more generally, BRUNHES a. VALLAUX 1921). The same men would also shape the development of French geography through the interwar years, based in large measure on their experiences in World War I (BROC 1993; see, for example, DEMANGEON a. FEBVRE 1935).

While the RGS acted as a metropolitan node in Britain's 'imperial archive' and focused on the production of maps and the development of schemes to project the war onto a 'winnable' imperial dimension; the SGP became a node in France's 'national archive', a 'centre of geographical calculation' that reflected a characteristically French faith that powerful intellectuals from the Sorbonne and the *Collège de France* could devise elegant geographical and historical arguments about the sovereignty of the national space.

### 3 New York: An Ideal Archive

Let us now turn to our third and final 'centre of geographical calculation': the American Geographical Society in New York, then headquartered in some splendour in a large residence on Broadway, not far from Columbia University. Established in 1851, the AGS was younger than the other two societies but was a thriving and successful organisation with over 3,000 members in the summer of 1916. Its success was due in no small measure to its energetic and ambitious young Director, Isaiah Bowman, later President of Johns Hopkins University and an influential foreign



policy commentator through the interwar years (MARTIN 1980; SMITH 1984, 1986, 1994).<sup>4)</sup>

During the early months of the war, the AGS continued its work more or less as normal but things changed dramatically after the US declared war on Germany in April 1917. While accepting that the war was in every respect calamitous, the US President, Woodrow Wilson, nevertheless believed the conflict provided the opportunity for a fresh start in Europe. Although he had steered the US into the war on the Allied side, Wilson believed that his government could nevertheless act as an honest, disinterested and objective arbitrator between rival European powers. Who better to guide the nations of the 'Old World' on the path to peace and justice than the US, a new nation pledged to 'make the world safe for democracy'? The war thus marked America's 'coming of age', claimed Wilson, an opportunity for the US to demonstrate to its 'parent' continent a new-found maturity and sophistication (WALWORTH 1976).

Having pressurised European leaders into clarifying their war aims, Wilson decided that the USA should establish an ambitious investigation of the world's geopolitical problems. 'The Inquiry' (or, as it is often mis-titled, the 'House Inquiry' after its initial largely inactive chairman, Colonel Edward Mandell House) was established in April 1917 as a fact-finding, geopolitical 'think tank'. Like the *Comité d'Études*, it comprised some of the finest minds in American academia in the anticipation that they could conjure up rational solutions to the problems of the world. Once again, it was decided to locate this project outside the structures of formal governmental structures in the belief that information amassed and conclusions reached by an ostensibly neutral, disinterested and scholarly organisation would have the desired aura of scientific credibility. Originally based in cramped offices in the New York Public Library, the 'Inquiry' moved (following energetic lobbying by Bowman) to the AGS that November, lured by the possibility of using the Society's unrivalled map collection. Although Bowman was technically only 'Chief Territorial Specialist', he quickly became what his co-worker on the Inquiry Charles Seymour, subsequently President of Yale, called 'the presiding genius' behind the operation (SEYMOUR 1951, 2; see also GELFAND 1963).

The Inquiry's startling objective was the collection of a vast corpus of historical, economic, environmen-

tal and ethnological data, mainly on Europe, which could be condensed into a catalogued, cross-referenced archive of stark incontrovertible fact, a mobile data bank which could eventually be shipped across the ocean to Europe where a post-war Peace Conference was destined to take place. Where Europeans had traditionally relied on old, partisan arguments, it was hoped that the US would bring clear, indisputable facts to cut through the cant and bad faith that had undermined European agreements in the past. The assumption was that perfectly rational solutions would logically emerge from the Inquiry's painstakingly acquired information. As Bowman put it several years later in a letter to a colleague in England: 'Where the experts of [other] nations came fully stocked with ideas, they did not have the mass of information assembled in a flexible, workable form. Only the US delegation had such a resource, and we anticipated that this would give us a negotiating advantage even over the French, in whose capital city the fate of Europe and the Near East would be decided' (AGS-BP).

By the beginning of 1918, 150 academics were working more-or-less full-time on the Inquiry, which was organised on a regional basis with a specialist academic in charge of each area (see Tab. 1). Aside from Bowman, prominent geographers involved on the Inquiry included Mark Jefferson, who acted as Chief Cartographer, and Douglas Johnson, Professor of Physiography at Columbia University, who was the official specialist in boundaries. The latter had been a member of the American Rights League that had campaigned for American military support of the Allies. In this capacity, he had penned numerous anti-German pamphlets, including a memorable work entitled *The Peril of Prussianism* (1917) (see also JOHNSON 1917a, 1918, 1921). The Inquiry also drew on the expertise of other American geographers such as W. M. Davis, Wallace Atwood, Albert Perry Brigham and Ellen Churchill Semple who all collected data and wrote briefing documents on different parts of Europe. Money seemed no object and materials flooded into the AGS offices from libraries across North America and from London and Paris, where the tenacious Johnson spent several months. By the end of the war, the Inquiry had become one of the most exhaustive and ambitious exercises in geographical and historical data collection ever attempted.

In view of the Inquiry's inductive reasoning, it is perhaps unsurprising that no single report or set of recommendations was ever produced. Wilson and his advisers hoped that a logical conclusion would emerge during the negotiations based on America's unique archive of fact. This huge collection of material was

<sup>4)</sup> This section is based on the published records of the AGS and on unpublished materials in the Society's archives in New York. It develops arguments put forward in greater detail in HEFFERNAN (1999).

Table 1: *The Structure of the American Inquiry, 1917–1919*Struktur der amerikanischen *Inquiry* 1917–1919

Director	S. E. Mezes	College of the City of New York
Chief Territorial Specialist	Isaiah Bowman	American Geographical Society
Regional Specialists:		
Franco-German border	Charles Haskins	Harvard University
Poland and Russia	R. H. Lord	Harvard University
Austria-Hungary	Charles Seymour	Yale University
Italy	W. E. Lunt	Haverford College
The Balkans	Clive Day	Yale University
Western Asia	W. L. Westermann	University of Wisconsin
Far East	S. K. Hornbeck	US Army
Colonial problems	George L. Beer	formerly of Columbia University
Economic Specialist	A. A. Young	Cornell University
Librarian and Historical Specialist	James T. Shotwell	Columbia University
Boundary Specialist	Douglas Johnson	Columbia University
Chief Cartographer	Mark Jefferson	State Normal School, Ypsilanti, Michigan

Source: MEZES (1921)

duly shipped across to Paris on the USS *George Washington* at the end of the war to be carefully re-assembled, supervised by Bowman and the other members of the delegation, at the US headquarters in the Hôtel Crillon on the Place de la Concorde. This was to be the centre of New World reason and rationality in Europe, the basis of America's contribution to world peace.

Wilson's policy, ambiguously expressed in his famous fourteen points, was wedded to the ideal of national self-determination. Despite its studiously neutral rhetoric, the Inquiry had to support that ideal. A central objective, therefore, was to identify those European peoples who had scientifically valid claims to nationhood. The implicit assumption behind this self-consciously rational geopolitical theorising was that American intellectuals could bring to bear unique perspectives, particularly concerning questions of race and language, based on the USA's exceptional experience as an immigrant nation, a 'melting pot' of European peoples. Unlike the prevailing polygenesis theories of race which still dominated in Europe, and which postulated irreconcilable racial differences, the American experience seemed to suggest that race was a dynamic, environmentally determined concept, susceptible to development, notably through racial intermingling (see, for example, RIPLEY 1899). This, of course, was a central tenet of liberal, American assimilationism and might logically have been used to argue for a United States of Europe, modelled directly on the USA. While a few optimists argued for precisely this outcome, this ideal seemed utopian, even to the

most ambitious American delegates. The compromise, which served the ideals of national self-determination while underlining the fluidity of racial categories, was the argument adopted in numerous Inquiry reports and publications that there were twenty-five European peoples who had the right to nationhood (for a variant on this claim that emphasised language rather than race, see DOMINIAN 1917, a work commissioned for the Inquiry by Bowman). As another American author expressed it in 1919: 'Twenty-five human groups ... show such unity of purpose and ideal, and such community of interest, of history, and of hopes, and each in such reasonable numbers, that they have embarked or deserve to embark on a career of nationality' (BRIGHAM 1919). For most members of the Inquiry, the political geography of Europe should reflect this 'scientifically proven' fact. If such a re-organisation could be achieved, the threat of future war would be hugely diminished.

The problem, of course, was that the ideal of national self-determination was unlikely to be accepted as a universal principle because it challenged the territorial integrity of virtually all states, not only the former enemy states of Germany, Austria-Hungary and the Ottoman Empire and the new 'pariah' state of Bolshevik Russia but also the former allied empires of Britain and France. Indeed, it could also be argued that the American Civil War had been waged precisely to crush those southern states that aspired to independent nationhood. The result was a selective imposition of national self-determination in order to transfer territory from the former enemy states either to newly

independent states in central and eastern Europe or to the allied imperial states of Britain and France (HEFERNAN 1998, 113–119; see also BOWMAN 1921).

Although the hopes of the American delegation in Paris were quickly dashed, the casualty of European *realpolitik* and the mounting opposition to Wilsonian internationalism in the USA, the story of the AGS and the Inquiry provides a different perspective on the role of geographical knowledge in wartime. This was not an imperial archive in the British sense, still less was it a nationalist one in the French fashion. The American Inquiry reflected more directly than either of these other two examples what RICHARDS (1993) means when he writes of the 'fantasy of information', the myth that the acquisition and control of 'pure', objective knowledge was the ultimate route to power.

### Conclusion

The foregoing stories provide three examples of how geographical knowledge and expertise were 'mobilised' in support of a major war effort. There are many gaps and questions unanswered here. Nothing has been said about other 'centres of geographical calculation' in Berlin, Vienna or St. Petersburg (though see MEHMEL 1995). Missing too is any sense of alternative, oppositional geographies that might have resisted the general complicity between science and the state emphasised here. More needs to be written about both these topics but suffice it say in this instance that World War One cast a long shadow over the subsequent development of geography. Most of the individuals and institutions discussed here learned important lessons about the politics of geography, lessons that directly informed their activities after 1919. The development of revanchist and overtly fascist geographies in Italy and Germany between the wars, so expertly analysed in recent years, reflects the sad conclusions that men such as Karl Haushofer, Giorgi Roletto and Ewald Banse drew from their experiences during and after the Great War.

But what conclusions can we draw from these stories that have relevance today? After all, this all happened a long time ago and all of the characters are long dead. Does twenty-first century geography have anything to gain by re-visiting these forgotten episodes? My answer, not surprisingly, is yes; and for two reasons, one philosophical, the other pragmatic. First, these three moments in the history of geography point towards a peculiarly modern way of thinking about information and its apparent relationship with power. While it

cannot reasonably be claimed that these exercises in war-time data collection shaped the course of events or directed the thinking of political or military leaders, the very fact that these 'centres' were established at all demonstrates that influential decision makers *believed* in the equation between knowledge and power. It is the belief in this relationship (though perhaps faith is a better word) rather than its demonstrable reality that is one of the defining characteristics of the modern age.

Second, and on a more pragmatic level, I think there are lessons from the past which can, and should, inform our actions and practices today. The hotchpotch of usual reasons – ambition, patriotism, duty – together convinced the characters involved in these episodes that they had no alternative but to support a war that was causing the deaths of millions of their fellow human beings. These events underscore how easy it is for ostensibly universal, 'scientific' ideals to become fused with the narrow, strategic interests of the nation-state. In a post-Cold War world when warfare, political instability and territorial violence within and between states remains as widespread as ever, it is important to dwell on our moral responsibilities as academics. The analysis of episodes from geography's past can draw attention to the wider social and political responsibilities that academics faced in the past and that they continue to face today, responsibilities all too easily forgotten, side-stepped or ignored in the high-pressure world of the modern academy.

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