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**Scientific, Institutional and Personal Rivalries among Soviet Geographers
in the Late Stalin Era**
Jonathan D. Oldfield (with D. J. B. Shaw)

Scientific, institutional and personal rivalries between three key centres of geographical research and scholarship (the Academy of Sciences Institute of Geography and the Faculties of Geography at Moscow and Leningrad State Universities) are surveyed for the period from 1945 to the early 1950s. It is argued that the debates and rivalries between members of the three institutions appear to have been motivated by a variety of scientific, ideological, institutional and personal factors, but that genuine scientific disagreements were at least as important as political and ideological factors in influencing the course of the debates and in determining their final outcome.

In contrast to an earlier view which argued that the major aim of the Soviet regime in the years following the Second World War was to establish ideological dominance over science, as exemplified in the notorious Lysenko affair (Joravsky [1970](#)), more recent scholarship has cast doubt on whether the relationship between science and ideology was at all straightforward. Nikolai Kremmentsov, for example, has argued that the Stalinist science system consisted of two 'symbionts' or group actors, the scientific community and the state control apparatus, neither of which was monolithic (Kremmentsov [1997](#), pp. 4-6). In his view, the idea that the state simply acted as the oppressor, and science the victim, is too simplistic, whilst ideology was a somewhat flexible cultural resource which could be employed by either side, or by components of either side, to advance their interests. Somewhat similarly Alexei Kojevnikov has drawn attention to the 'ideological mess' which the many different and often contradictory ideological principles in play amounted to in practice (Kojevnikov [2000](#), p. 143). He points out that the effects of the ideological debates which took place in five scientific specialisms in the post-war Stalin period were different in every case, and suggests that the campaigns were more important as a means for asserting control and for stimulating progress in science than as attempts to attain some putative ideological purity (see also Pollock [2006](#)).

The notion that Soviet science was severely threatened by ideological distortion, popular in the West in the Cold War period, was mirrored by the view that in the West science was to all intents and purposes an autonomous activity. The latter idea reflected the prevailing doctrine in science studies, and particularly in the philosophy of science, that progress in science depends entirely on processes internal to science itself, such as the freedom to pursue research questions of the scientist's own choosing, open debate and transparent methods for testing scientific hypotheses and comparing evidence (Popper [1959](#)). It became a simple game to contrast the supposed freedom which science enjoyed in the West with its thralldom to the dictates of the state in the Soviet Union. Beginning with the work of Thomas Kuhn, however, this rosy and optimistic view of Western science has been questioned (Kuhn [1962](#)). The ensuing period has seen the rise of a constructivist account of science

which views science as an integral part of human culture, subject to similar social, economic, cultural and personal influences as other human activities and varying in its overall character from place to place (Golinski [1998](#); Livingstone [2003](#)). Whilst the relationship between such external influences and the actual practices of science continues to be debated, with extreme views expressed on either side, it is now widely accepted that the concept of scientific autonomy can no longer be accepted at face value (Hull [1988](#); Ruse [1999](#)). And with regard to the relationship between science and the state, such newer approaches to the history and sociology of science have helped cast doubt on earlier simplistic accounts and are now reflected in the literature on science as practised both in the Stalinist USSR and in the West (Krementsov [1997](#); Fuller [2000](#)).

Taking its cue from the recent literature in both the history and sociology of science and in Soviet history, this article focuses on the scientific debates and associated rivalries which characterised the geographical sciences in the late Stalin period. Geography is selected not only because of its broad and synthetic character, having affinities with an array of neighbouring disciplines in the natural and social sciences, but also because of the strident character of the debates and the open rivalries which characterised it during this period. The focus is upon three prominent geographers of the time who worked in three different institutions and who were in many ways the foci for the debates. The article's aim is to consider the range of factors—scientific, ideological, personal, institutional and political—which impinged upon the debates and rivalries of the time, and thus upon the progress of science. The article is thus aligned with the recent literature of the history and sociology of science which seeks to understand the development of science not only at an intellectual level but also in the context of the influences, personalities, environments and places which affect it. In this way it is hoped to move the emphasis away from the straightforward analysis of the relationship between science and ideology which has been the focus of so much of the literature on science in the Stalin period.

The development of geography in the pre-Soviet and early Soviet periods

Because of its relatively close relationship with biology which provided the disciplinary focus for the Lysenko affair, and the fact that the debates in that discipline had some repercussions in geography, geography provides an interesting case study of science under Stalinism. However, in the period under consideration it was still a relatively new discipline displaying many of the hallmarks of its pre-revolutionary development. For this reason, and because the three main protagonists in the geographical debates all received their scientific training and began their professional lives before 1917, it is important to say something briefly about geography's development in Russia from the late nineteenth century and also to provide some background on the three geographers concerned.

Although the Russian Geographical Society was founded in 1845 as an amateur scientific society with a very broad remit (paralleling the founding of similar national societies in numerous other states around this time), professional geography in Russia dates only from the 1880s. A decree of 1884 ordered the opening of geography departments (*kafedry*) in the imperial Russian universities,

following the precedent set in Germany 10 years before. There followed a dispute over whether the new departments should be established in history and philology (humanities) faculties or in faculties of physics and mathematics, and it is probably symptomatic of the scientific bent of most Russian geographers (and of the Geographical Society) that the government eventually agreed that the new departments should form part of the physics and mathematics faculties. From 1884 the first departments of geography duly opened in Moscow and St Petersburg universities, to be followed by others in succeeding years. The syllabus approved for the new departments indicates a very wide spectrum of study, though with a strongly scientific and mathematical content (including physics, chemistry, mineralogy, geology, botany and zoology) (O postanovke 1887; Anuchin [1902](#)).

Because of geography's rather late arrival in the university milieu, engendering strong competition with other, already-established disciplines, and also because of its eclectic character, it suffered from something of an identity crisis. Even so, the 1917 revolution gave a boost to the infant science by the establishment in 1918 of a new Geographical Institute in Petrograd [building, it seems, on an initiative of the Provisional Government (Berg [2003](#), p. 27)]. This was the country's first specialised geographical institute for teaching and research. In 1925, this institute became the Faculty of Geography at Leningrad State University. It would appear that geography's strongly scientific and applied emphasis in Russia, with close associations with such activities as cartography and exploration, resource survey and land evaluation, was attractive to the Bolsheviks who, after all, had taken power in a vast country, many of whose natural resources were still unexplored and with an ambitious programme of national economic and social development.

During the First World War geographers had played a prominent role in KEPS (*Komissiya po Izucheniyu Estestvennykh Proizvoditel'nykh Sil Rossii*, the Council for the Study of Productive Forces) which was established in 1915 under the chairmanship of V. I. Vernadskii and the auspices of the Academy of Sciences with a remit to survey the country's resources as a contribution to the war effort. In 1918, on the initiative, it seems, of A. A. Grigor'ev (of whom see more below), KEPS sprouted a division to study the country's industrial geography. This was finally reorganised in 1930 as the Geomorphological Institute, becoming the Institute of Physical Geography on its transfer along with the other Academy of Sciences institutes to Moscow in 1934. Three years later, upon incorporating a section on economic (or human) geography from the disbanded Communist Academy, it became the Academy of Sciences Institute of Geography, with A. A. Grigor'ev as director.

Of the three geographical protagonists who are the focus of this study, the oldest was Lev Semenovich Berg (1876-1950). Berg was born into the family of a Jewish notary in the Bessarabian city of Bendery, eventually winning a scholarship to Moscow University where he began studying in 1894 under the eminent anthropogeographer D. N. Anuchin and others. Graduating with high honours, he undertook research in West Siberia and Central Asia and also worked as a fisheries inspector. His brilliance and breadth of knowledge quickly attracted attention and he soon established a national reputation for his work on limnology, ichthyology, hydrology, climatology and related areas. In 1909 he was awarded a doctorate by Moscow University on the basis of his innovative book on the Aral Sea (Berg [1908](#)). In 1904, Berg began work at the Zoological Museum in St Petersburg and, after

a number of other posts, was appointed in 1916 to the geography department at St Petersburg University as professor. The rest of his career was centred on St Petersburg/Leningrad.

In geography Berg is nowadays recognised as the founder of what is usually termed Russian landscape science (*landshaftovedenie*), a conception of geography based on the assumption that the earth's terrestrial surface is naturally divided into integrated, biophysical units or landscapes which can easily be recognised in the field. Berg defined a landscape as

that combination or grouping of objects and phenomena in which the peculiarities of relief, climate, water, soil, vegetation and fauna, and to a certain degree human activity, blend into a single harmonious whole, typically repeated over the extent of the given zone of the earth. (Berg [1947](#), p. 5)¹

In his view, the study of such natural units formed the core of geography as a scientific discipline. In the years after the revolution Berg argued that he had based his conception of landscape, the germ of which is to be found in his publications of 1913 and 1915 (Berg [1913](#), [1915](#)), on the teachings of the eminent Russian soil scientist Vasilii Vasilievich Dokuchaev (1846-1903), though it is evident that he was also strongly influenced by the German landscape geographical school and particularly by the philosopher and theorist Alfred Hettner. Hettner's principal teaching was that geography was in essence a chorological science (Hettner [1930](#)).² Unfortunately, this conception found little favour with Marxist ideologists, particularly with the onset of Stalin's cultural revolution from the late 1920s. Hettner, for example, was accused by some geographers of propounding anti-materialist doctrines which confused natural and historical laws, amounting to geographical or environmental determinism, or 'geographism'.³ Thus Berg's seminal book *Landscape-Geographical Zones of the USSR*, written in response to an invitation by N. I. Vavilov and published in 1930 by Vavilov's Institute of Plant Breeding, was sharply attacked in print for its alleged anti-Marxist conceptions (Shaw & Oldfield [2008](#)).⁴ Berg had also fallen foul of scientific ideologists in 1939 when the possibility that he might be elected a full member of the Academy of Sciences elicited a condemnatory letter to *Pravda* by a group of prominent biologists protesting at the anti-Darwinian character of Berg's earlier book, *Nomogenesis* (Berg [1922](#)).⁵ In the event Berg's election was delayed until 1946 (Shaw & Oldfield [2008](#)).

The second geographer and focus for this article is the aforementioned Andrei Aleksandrovich Grigor'ev (1883-1968), director of the Institute of Geography from its foundation to 1951. Grigor'ev's father was an army officer and his mother was evidently well educated, knowing French and German. Grigor'ev studied at St Petersburg University and later moved to Berlin and then Heidelberg where he enrolled in Alfred Hettner's seminar. He returned to Russia on the outbreak of war in 1914, having been awarded a doctorate under Hettner's supervision. After working on the Brokgauz and Yefron encyclopaedia, he joined KEPS as we have seen and quickly rose to be head of the latter organisation's geographical section. Well into the 1920s Grigor'ev was regarded as an economic geographer and a strong proponent of Hettner's chorological approach to the subject. He was also beginning to interest himself in physical geography, however, including its theory, and participated in

a number of geographical expeditions through the 1920s. Eventually, being accused of Hettnerism and other sins in economic geography, he moved almost entirely into the physical side of the subject. Oddly enough, Grigor'ev has been described by Alexander Vucinich as one of a group of new academicians elected to the Academy (in contrast to Berg) in 1939, who eventually 'chose to join the Communist Party, even though they showed no familiarity with Marxist theory and had made no effort to make their scholarly work part of the relentless campaign to make dialectical materialism "the general methodology of science"' (Vucinich [1984](#), p. 183).⁶ The evidence contradicts this assertion, however. As shall be seen below, from the early 1930s Grigor'ev argued for a reconstructed geography which would be consonant with the principles of dialectical materialism, denouncing Berg's landscape science in the process.

Nikolai Nikolaevich Baranskii (1881-1963) is the third focus for this study (Anuchin [1980](#); Sdasyuk [1996](#)). Baranskii hailed from Siberia where his father was a teacher at the Tomsk *gimnaziya*. From an early age he became an activist in social democratic and revolutionary circles, entering Tomsk University to study law in 1899, only to be expelled again two years later on account of his revolutionary activities and suffering arrest on several occasions. In subsequent years Baranskii played a major role in Bolshevik activities in Siberia. He subsequently trained in economics, political economy, statistics and related areas, and during the war worked for the Union of Towns.⁷ After the revolution he held various posts in the economic and state control administrations and in 1923 was personally invited by Lenin to take up the post of deputy commissar of the workers' and peasants' inspectorate. However, Baranskii had earlier been encouraged by Lenin's wife Krupskaya to involve himself in workers' higher educational activity and he now veered away from economic administration towards scientific work, particularly economic geography. In 1929 he was invited to join the geography division (subsequently faculty) at Moscow State University where he organised and headed the department of economic geography.

Scientifically Baranskii became important for his theory of economic regionalisation but was probably best known for his work in geographical pedagogy, writing and editing numerous text books, including books for school use (an activity which subsequently brought him into conflict with Stalinist ideologues). In the 1920s he also sponsored the translation and publication of significant foreign geographical texts, most notably Alfred Hettner's *Geography: its History, Substance and Methods*, which he edited and published in 1930 (Hettner [1930](#)). Like Berg, and also Grigor'ev somewhat earlier, Baranskii was subsequently accused in print of 'Hettnerism' and other crimes. Despite such denunciations, however, and like the other geographers described above, Baranskii continued to hold his scientific post into the post-war period.

Approaches to physical geography: background to the post-war debates

The terms for the post-war ideological and scientific debates among geographers had already been set in the pre-war period. The two main contenders were Berg's concept of *landshaftovedenie*

(landscape science) and Grigor'ev's notion of 'the single physical-geographical process', two contrasting approaches to physical geography which increasingly dominated the discipline as a whole. The rise of Russian landscape science has been discussed elsewhere (Shaw & Oldfield [2007](#)). The idea of the spatial variability of the earth's surface dates back at least to Bernhard Varenius' *Geographia Generalis* (Varenius 1650). Early in the nineteenth century it was provided with some kind of scientific basis in such works as Alexander von Humboldt's *Cosmos* and the *Erdkunde* of Karl Ritter (von Humboldt 1847; Ritter 1822-1859). Later in the century, in the wake of the rising popularity of neo-Kantian philosophies particularly in Germany, numerous geographers began to embrace a chorological conception of their discipline, a view which was eventually fortified by Alfred Hettner's magisterial volume referred to above (Hettner [1930](#)). The chorological conception of geography was widely embraced by Russian scholars in the first three decades of the twentieth century. Few, however, were prepared to go as far as L. S. Berg, Hettner's leading propagandist in Russia, who argued that the study of landscapes (*landshaftovedenie*) was the essence of the discipline, thus seeming to consign the study of processes to a secondary role. As noted above, Berg claimed that his concept of landscape, which was essentially naturalistic, was derived from the science of Dokuchaev. Berg distinguished between his own view of landscape and that of Hettner on landscapes and regions, arguing that the latter's concept was vague and to some degree unscientific. Nevertheless, Berg's opinion was that Hettner had provided geography with its own distinctive approach to the study of the earth's surface and had thus rendered a major service to the discipline.

Grigor'ev's concept of the 'single physical-geographical process' emerged as he gradually distanced himself from Hettner from the mid-1920s. In an article entitled 'The Subject and Tasks of Physical Geography', published by him in a geographical collection in 1932, Grigor'ev focused attention on what he called the earth's 'physical-geographical envelope', which is that zone at the surface of the earth produced by the combined influences of the lithosphere (or geology), atmosphere, hydrosphere and biosphere and lying between the deeper layers of the earth where life seemingly becomes impossible, on the one hand, and the upper atmosphere where life is equally impossible on the other. According to Grigor'ev, the 'physical-geographical process' is that 'exceptionally complex and multi-faceted process' which uniquely characterises this zone or envelope (Grigor'ev [1932](#)). In fact, most geographers thought of this zone as being characterised by a series of different physical processes, but Grigor'ev now claimed that these should be conceptualised as one unitary process. Like Berg's concept of landscape, Grigor'ev's ideas have historical precursors, being based on notions of the systemic or organic nature of the earth which date back to the eighteenth century at least, whilst the term 'geographical envelope', or envelopes, had been popularised by the German geographer Ferdinand von Richthofen who died in 1905. In his 1932 paper, however, Grigor'ev made two further points which were to be of fundamental significance for the future development of geography in the USSR. Firstly, he argued for the reconstruction of physical geography on the basis of dialectical materialism, which meant in fact refocusing the subject on 'the holistic, dialectically developing object' of the physical-geographical process. Following Engels, Grigor'ev argued that each science should study one 'particular form of the movement of matter'; in his view, the single physical-geographical

process constituted such a form (Grigor'ev [1932](#)).⁸ His second point was to denounce conceptions of geography deriving from the thought of Alfred Hettner, including the ideas of L. S. Berg. Grigor'ev's points were reiterated and extended in the report on 'Problems of a Dynamic Physical Geography' which he delivered to the first All-Union Geographical Congress in Leningrad in April 1933, where he declared the physical-geographical process to be the central focus of geography for the future (Grigor'ev [1934](#)).

Subsequently the 'process' (*protssessual'nyi*) approach came to dominate the work of the physical geographers at Grigor'ev's institute whilst the latter attempted by every means to achieve its dominance over the discipline as a whole. Thus in 1946, in the Institute of Geography's journal, he described his idea as a 'new approach' to geography, contrasting with all earlier approaches, and declared that

the study of the earth's surface precisely in this way most easily allows the discernment and study of the interconnections and interactions between the components of the environment, for which reason this must become the basic theoretical task of physical geography. (Grigor'ev [1946a](#), pp. 140-41)

Scientific debate in the post-war period

In 1947, to mark the thirtieth anniversary of the revolution, Grigor'ev published a lengthy review article on 'The Successes of Soviet Physical Geography over Thirty Years' in his institute's journal (Grigor'ev [1947](#)). The contents of the article formed the substance of a report he delivered to a meeting of the Physical Geography section of the Moscow Branch of the USSR Geographical Society on 29 November (Doklad akad. A. A. Grigor'eva 1948). Here Grigor'ev summarised his key objections to Berg's landscape science. Before the revolution, he asserted, geography in Russia had taken an idealistic direction in imitation of a similar tendency which had previously occurred in Germany in the wake of current developments in bourgeois science more generally. This idealist methodology, he pointed out, was based on a classification of the sciences which, quite contrary to reality, divides matter, space and time, and consigns geography to the study of the spatial distributions of phenomena only, ignoring both their essence on the one hand and their development on the other. This reduces geography to a purely descriptive science, concerned with individual features and unique differences between phenomena at the earth's surface and denying even the possibility of general laws. The epitome of this methodology in the USSR, according to Grigor'ev, was landscape science.

Although this scientific method fully contradicts the needs and tasks of the Soviet economy, it completely dominated Soviet geography down to the first Stalin five year plan. Only in the first years of the five year plan was the idealist essence of this bourgeois geographical methodology basically unmasked, after which began the

working out of new scientific methods based on the methodology of dialectical materialism. (Grigor'ev [1947](#), p. 376)

Needless to say, this new methodology was Grigor'ev's process approach.

Berg was not at the November meeting at which Grigor'ev spoke but he was informed about its course by Yu. G. Saushkin of Moscow University (an economic geographer and follower of Baranskii). In a letter to Saushkin dated 12 December Berg gives his reactions to Grigor'ev's attack (Saushkin [1976](#), pp. 11-13).

It would be useful to refute the altogether groundless opinions of A. A. regarding the 'idealism' of landscape science. In what way is it possible to see 'idealism' in the chapter on the tundra in my *Geographical Zones of the USSR*? And if there is idealism there, why is there no idealism in A. A. Grigor'ev's *Subarctic*? What principled difference is there between our two interpretations of that zone?

Berg goes on to assert that Grigor'ev's understanding of the essence of geography is in effect a return to the 'long-ago repudiated views of von Richthofen and, among us, of Petri and others'.⁹ In this way, he goes on, the enormous, long-established work of P. P. Semenov, Chizhov, Dokuchaev, Morozov, Sukachev and all the Russian proponents of landscape geography is set at naught. With regard to the physical-geographical 'process', he continues, there are many processes and the geographer has to reckon with them as best he can: 'There is no single physical-geographical process. The latter is a fiction and, moreover, altogether useless for geography'. Berg also refutes the attacks which had been directed by various ideologues on his use of the word 'harmony' with regard to landscapes (the word was felt to contradict the idea of the dialectical character of nature as posited by Marxism-Leninism).¹⁰ Finally, he denounces Grigor'ev's assertion that he seeks to divorce matter, time and space as 'nonsense, absurd, rubbish': 'No-one posits such a separation, and no-one would do so in his right mind'. Berg says that he is principally interested in forms (objects) and processes, and 'neither forms nor processes can exist outside time and space'. It is probably indicative of Berg's caution that he tells Saushkin that he has no wish to engage in public debate with Grigor'ev over such questions and that Saushkin should therefore treat his observations as a private discussion between friends. He expresses regret that the discussion of Grigor'ev's paper took place at the Moscow Branch of the Society and fears that the result may be a worsening of relations between the geographers at the university and those at the institute—he has no wish to see the 'landscape' of the Branch become 'disharmonious'.

Twelve months later, on 15-19 October 1948, Grigor'ev called an expanded session of the Scientific Council of the Institute of Geography to discuss the implications for geography of the Communist Party's final renunciation of Mendelian genetics in favour of 'Michurinism' (or Lysenkoism) three months previously.¹¹ The session was attended by about 200 Society members. Not surprisingly, perhaps, Grigor'ev used the opportunity to launch further attacks on Berg and other proponents of the

landscape approach to geography, repeating many of the points he had made on the previous occasion.

Berg's personal archive in the St Petersburg Academy of Sciences Archive contains his formal written defence against these accusations, addressed to the Geology and Geography Section of the Academy of Sciences and dated 13 December 1948.¹² Here once again, but this time as part of a somewhat harsher personal attack on Grigor'ev, Berg refuted charges of 'idealism' and rejected his opponent's description of landscape science's supposed weaknesses, accusing Grigor'ev of having in effect abandoned the science of Dokuchaev. Furthermore, he denied Grigor'ev's claim to have founded a new physical geography and portrayed the single physical-geographical process idea as a form of obfuscation (Shaw & Oldfield 2008).

What is most interesting in these discussions is the mixture of genuine scientific disagreement, ideological rhetoric and personal abuse which they contain. Political ideology was, of course, part and parcel of public debate in this period and so accusations of 'idealism' and of propounding ideas which were contrary to Marxist-Leninist doctrine were very much par for the course in scientific argument. But many of the objections to landscape science and the chorological approach which were raised by Grigor'ev in fact anticipate similar debates which occurred in geography in the West in the 1950s and 1960s when proponents of the 'new geography' and the 'Quantitative Revolution' denounced 'traditional' regional approaches (Livingstone 1992, pp. 304-16). The idea that regional geography was purely descriptive (*idiographic*), or that it lacked application to real life problems, for example, was the essence of the later Western debates. As in those debates, however, Grigor'ev's barbs contain misapprehensions if not deliberate misrepresentations. For example, Berg's understanding of landscape was certainly scientifically grounded rather than purely descriptive (although landscape science could perhaps be accused of placing too much emphasis on the delineation of landscapes in the field to the neglect of the processes which produce them). There is also little evidence either in Hettner's thinking or in the work of Berg of a desire to divorce space from matter and time. (Indeed Berg's work had a strong chronological component, and he himself was a pioneer in palaeogeographical studies.)

That said, it has to be admitted that Berg had hardly helped his own case. For example, his confident assertion that geography focuses on landscapes rather than on the processes which produce them did lay him open to the charge that geographers need not worry about processes at all, which is tantamount to saying that explanation is not part of their brief. A related point is that he never clearly distinguished between individual and typological landscapes. Although the thrust of his thinking on landscapes was in the direction of landscape as type, his discussion of actual landscapes sometimes seemed to suggest that they were unique and individual phenomena, a reflection perhaps of the complexity of the landscape concept itself (Shaw & Oldfield 2007). As regards the charge that Berg's ideas divorced space from time and substance, his loyalty to Hettner's thought and his desire to portray geography as a chorological discipline did lead him to make many statements which appeared to suggest that time and substance were of minor significance to the subject.¹³ Altogether, the ways in which Berg expressed his ideas were by no means always consistent and sometimes appeared flatly

contradictory (Sukhova [1981](#), pp. 107-10). Perhaps this reflected the fact that he was a scientist rather than a philosopher, and the complexity of the concepts with which he was grappling.

Although Berg's response to Grigor'ev's attack suggests that the latter's ideas were essentially old and discredited, there is in fact much to indicate the opposite. Indeed, Grigor'ev's biographer, I. M. Zabelin, goes as far as to hail Grigor'ev's achievement as seminal, in effect founding an entirely new discipline (Zabelin [1976](#), pp. 50, 74). There is no doubt that the late nineteenth and early twentieth centuries was a period in which science became increasingly conscious of the earth as a system composed of many interacting processes. Von Richthofen's discussion of the geographical envelope has been mentioned already. Later, in the 1920s, V. I. Vernadskii published his major work *The Biosphere*, building on earlier ideas such as those of the Swiss geologist Eduard Suess. Vernadskii went on to develop the Russian schools of biochemistry and biogeochemistry, approaches which were also taken up by Grigor'ev and applied to geography (Oldfield & Shaw [2006](#)). This was also the period when key processes like continental drift, atmospheric circulation and the hydrological cycle were being worked out (Bowler [1992](#), pp. 379-553). According to Zabelin, Grigor'ev had been inspired in his views by certain key events such as accounts of the effects of *El Niño* on the coastal environment of Chile in March 1925, and by his participation in a complex geographical expedition to Yakutia in the same year (Zabelin [1989](#), pp. 116-20). Grigor'ev's later book, *The Subarctic*, based on the 'process' approach, was regarded as a classic (Grigor'ev [1946b](#)). Grigor'ev championed mathematical and systems approaches in physical geography, and also helped pioneer new methods such as the 'heat and moisture balance' principle of geographical zonation.¹⁴ There was much, therefore, that was farsighted in his achievement.

What was less farsighted, however, and what undoubtedly frustrated scholars like Berg was the way in which Grigor'ev used such insights to advance his own personal and political interests and to ride roughshod over the scientific achievements of the landscape scientists and others. In the opinion of many, he grossly overestimated the significance of his own achievements, signified above all in his failure to provide a workable definition of what he meant by 'the single physical-geographical process'. In Berg's responses to Grigor'ev's [1947](#) and 1948 attacks on him, he in effect accused Grigor'ev of mystification, of using an undefined concept to denigrate the work of real scientists who, in the absence of ways to conceptualise and analyse the earth's 'geographical envelope' as a whole, were obliged to break it down into its component processes and parts and to examine them separately. Berg disputed Grigor'ev's accusation that his own approach to physical geography was static and not concerned with processes; rather in his view the difference was one of scale, and of what was scientifically feasible at that particular point in time.

In the late 1940s mathematical and systems approaches to the study of the earth's systems were still at an initial stage of development. But if some way could be devised to measure the combined processes which together constitute the purported single physical-geographical process, then, as Grigor'ev seems to have believed, the reality of that process would be demonstrated. From the early 1940s he began to speak of the varying 'intensity' of the process on different parts of the earth's surface. According to him, the 'intensity' varies in accordance with the radiation balance at different

points of the earth's surface and atmosphere, and also on the connected relationships between precipitation and evaporation, the whole varying not only through space but also through the seasons (Grigor'ev [1946a](#), pp. 148-68). Grigor'ev and his associate, the geophysicist M. I. Budyko, went on to consider the relationships between such balances and other processes, such as those of erosion, soil formation and biological productivity. The ultimate aim seems to have been to develop some comprehensive measure of the complex of processes involved. In the view of D. L. Armand, however, this whole conceptualisation contained inherent contradictions (Armand [1949](#)).¹⁵ Armand, for example, asked, if different processes vary in their intensity in interlinked but contrary ways (for example, in tropical deserts where biological productivity may be at a minimum but with maximum intensity of many atmospheric and erosional processes, or in arctic deserts where again biological productivity is minimised but other processes like glaciation or frost heaving may be maximised), then how can one speak of the overall intensity of the entire complex of processes as a whole? Similarly, different processes demand different types of measurement, raising the question of how it is possible to measure the 'intensity' of all the processes taken together. Thus, whilst Grigor'ev's concept gave rise to consternation because of the political uses to which he tried to put it, it also raised some serious scientific objections.

Whether Grigor'ev had originally been moved to develop his notion of the physical-geographical process purely in response to changing political circumstances from the late 1920s onwards is hard to say. The fact that a geography based on the study of a particular form of the 'movement of matter' could be said to accord with Engels' understanding of the nature of a science must have had its attractions for an ambitious individual like Grigor'ev, hence his insistence that the physical-geographical process was a single process. A further reason may have been that he realised that a process-based geography would be centrally focused on issues of environmental change and thus accord with Stalin's growing emphasis from the early 1930s on the need for environmental transformation as part of the USSR's building of socialism. In Grigor'ev's view such a geography would be both ambitious and dynamic, in contrast to the seemingly more conservative and painstaking approach enshrined in landscape science. On the whole, therefore, it seems likely that Grigor'ev's evolving concept of physical geography was to some degree a response to changing political circumstances. At the same time, given that his approach built upon the beginnings of a developing international science of the earth with a global perspective (one which had not previously been well represented in Soviet geography), it is difficult to believe that politics was the only factor influencing him. Whatever may be the political uses to which Grigor'ev tried to put his new geography, it had a definite if not entirely well founded basis in science.

Personal and institutional rivalries in the post-war period

One of the difficulties of analysing the rivalries which existed among geographers in these years lies in the ways in which ideological and scientific disagreements were mixed up with personal and also institutional antagonisms, the existence of which is by no means always easy to explain. For example,

Grigor'ev's personality is subjected to a good deal of criticism in many accounts. Thus his biographer and admirer I. M. Zabelin refers to his 'tough' (*krutoi*) character (Zabelin [1976](#), p. 44), whilst L. S. Abramov admits he did not always behave 'irreproachably' (*bezuprechno*) (Abramov [1993](#), p. 36). The strongest condemnation, however, appears in Baranskii's memoirs which were published in full only in 2001 (Baranskii [2001](#)). Here Baranskii refers to Grigor'ev's 'abhorrent' character, his special (negative?) 'qualities', and his antisocial sympathies, as a result of which he 'acquired not a few personal enemies' (Baranskii [2001](#), p. 122). Grigor'ev, avers Baranskii, was a racist 'extraordinarily transformed into a Marxist' (Baranskii [2001](#), p. 140). It seems apparent that Grigor'ev's personal domination over the institute resulted in some geographers, like K. K. Markov, migrating to the university (where he later became dean of the Faculty of Geography). The university had its own group of landscape geographers who were subject to attacks by members of the institute, and the former naturally reciprocated. Similarly institute members launched attacks on the Leningrad geographers, who in essence monopolised the Geographical Society.¹⁶ However, there are also hints of internal rivalries within the different institutions themselves. The Moscow University geographers, for example, intermittently claimed L. S. Berg as one of their own on the grounds that he had been a pupil of D. N. Anuchin, whilst in Berg's archive there are indications that Berg himself ascribed his provenance to either Leningrad or Moscow universities depending on how the forces around him were arrayed at any particular time.¹⁷ It is of course difficult to discern the different personalities involved, whilst some of the rivalries were undoubtedly based on past events. Baranskii's antagonism towards Grigor'ev, for instance, seems to have originated in the troubles he had suffered at the hands of 'leftist' economic geographers over the period 1929-1934. In his memoirs, Baranskii describes the institute as

a symbiosis, or otherwise an unlawful cohabitation between this idiosyncratic academician with leftists from economic geography, or in other words between anti-human physical geography and anti-natural economic geography, a union based on the mutual forgiveness of sins and on mutual, unprincipled support. ... The leftists needed A. A. Grigor'ev as a high-ranking scientific screen, whilst Grigor'ev needed the leftists as a Party prop (*podporka*). This is the essence of the matter. (Baranskii [2001](#), pp. 142-43)

In his memoirs Baranskii relates events surrounding the establishment of the Moscow Branch of the Geographical Society in 1945 (Baranskii [2001](#), pp. 121-23). This was accompanied by a struggle between the institute and the university for control over the new organisation. According to Baranskii many geographers were opposed to Grigor'ev either on personal grounds (those who were informed as to his personal 'qualities') or on scientific ones (opposition to Grigor'ev's theory of the single physical-geographical process). The two groups of geographers competed for elections to the chair and vice-chair, Grigor'ev standing for vice-chair with one of his colleagues as chair, and on the university side one of the senior geographers standing as chair and Baranskii himself as vice-chair. In

the event the Moscow University geographers secured a majority on the branch soviet including both chair and Baranskii as vice-chair, whilst Grigor'ev had to be satisfied with mere membership of the soviet with a number of his nominees denied election altogether. Subsequently the Moscow Branch became internationally known for its journal, *Voprosy Geografii*, of which Baranskii was a longstanding editor.

It is perhaps unsurprising, therefore, that henceforth Institute of Geography members should view the leadership of the Moscow Branch as their rivals, including the editors of the journal *Voprosy Geografii*. A classic instance of this attitude occurred in 1949 with the publication in the institute's journal of a savage attack on K. K. Markov and A. I. Solov'ev, the editors of *Voprosy Geografii* volume 9 (Dorskach & Dolgopolov [1949](#)). The attack was launched in the context of the ideological squeeze on the sciences inaugurated by the August 1948 session of VASKhNIL¹⁸ which signalled the triumph of Lysenkoism (Krementsov [1997](#), pp. 158-83). The review points out that volume 9 of *Voprosy Geografii* commemorates a session held the previous year by the Faculty of Geography, Moscow State University, entitled 'Lomonosov Readings' and held to honour the memory of D. N. Anuchin. The articles, it is noted, are, according to the volume's editors, a unity despite their variety and they reflect the general contours of research and thinking at the Geography Faculty. The review also cites the editors' claim that, following the VASKhNIL session, it was unnecessary to change any of the papers, proving that the geographers of Moscow University already had a correct theoretical position 'in working out a progressive theory of the development of the natural environment' (Dorskach & Dolgopolov [1949](#), p. 369). The rest of the review article is then devoted to disproving this assertion. Thus there is a long disquisition on the volume's alleged commitment to a notion of the 'self-development of the geographical environment' (Dorskach & Dolgopolov [1949](#), p. 370) independent of outside influences, which seeks to show how this involves the importation into the subject of metaphysical doctrines associated with discredited foreign scientists like Weissman and Morgan, contrary to ideas propounded by I. V. Michurin and T. D. Lysenko and recently endorsed by the Party.¹⁹ Other accusations are similar to those launched earlier by Grigor'ev on Berg's work, such as its alleged advocacy of a divorce between space and time, leading to geography becoming a purely descriptive discipline. The volume, it is asserted, enshrines a restrictive view of nature which ignores Stalin's injunctions regarding nature's need for 'transformation', adopts a liberal attitude towards foreign geographers, and ignores the importance of ideological struggle. After a lengthy recitation of similar sins, the article concludes that the volume's editors are 'uncritical and unserious' in their approach, failing in fact to follow the 'progressive, materialist ideas' of Anuchin.

According to N. M. Dronin, opposition to Grigor'ev and his theory of the single physical-geographical process was rarely expressed openly in the 1930s and early 1940s (Dronin [1997](#)). But by 1947 opposition was becoming more overt. This for example was demonstrated at the second All-Union Geographical Congress, held in Leningrad in January 1947 to commemorate the centenary of the founding of the Geographical Society but, like similar meetings for other disciplines held across the country at this time, meant to demonstrate the survival and indeed vibrant character of Soviet science and of Soviet culture more generally after the war years. Although the congress was presided over by

Berg, who had succeeded Vavilov as president of the Society following the latter's arrest in 1940, the proceedings were dominated by references to the theory of the single physical-geographical process. Berg himself, it seems, was largely silent throughout the congress. However, according to Dronin, rather too much was heard about landscape geography and the theory of landscape in the reports of some of the delegates, including statements to the effect that, although the theory of the single physical-geographical process was relatively new and still in the process of development, that of landscape was already well established and fully accepted within the discipline.

Outright opposition to Grigor'ev surfaced at the November 1947 meeting of the physical geography session of the Moscow Branch of the Society alluded to above (Doklad akad. A. A. Grigor'eva 1948). The session was attended by many geographers from Moscow University. Here, as noted above, Grigor'ev presented his report on the successes of Soviet physical geography over the previous 30 years. His key claim, as noted already, was that before 1917 geography in Russia had been infected by German idealism and that this tendency had continued to prevail down to the first five year plan in the form of landscape science, after which it became possible to work out a correct methodology based on dialectical materialism (namely, the process approach). Nearly 30 years later, Saushkin recalled the impact of Grigor'ev's speech which was, in his opinion, essentially an attack on Berg (Saushkin [1976](#), p. 11):

I well remember the atmosphere of that session when, after A. A. Grigor'ev's report, it seemed as if Berg was 'finished' and that no-one would dare criticise the 'ideological leader' of Soviet geography, A. A. Grigor'ev. But suddenly something unexpected happened: the scholars of Moscow University, N. A. Gvozdetskii, K. K. Markov, Yu. K. Efremov, A. I. Solov'ev, and N. I. Mikhailov calmly and logically demonstrated the errors of A. A. Grigor'ev. Only G. D. Rikhter spoke up after them in defence of A. A. Grigor'ev's position. The resonance of this session was immense.[20](#)

Unfortunately for him, Grigor'ev had made a serious political error in describing pre-1917 Russian geography as idealist and as based on German models. This way of describing the history of the discipline was no longer acceptable by late 1947, when the harsh ideological campaign of the *Zhdanovshchina* had fully taken effect across the Soviet sciences. The essence of the campaign was to demonstrate the superiority and distinctiveness of the Soviet sciences, built upon the 'progressive' achievements of the pre-1917 Russian scientists. Somehow Grigor'ev had overlooked this significant point. It therefore became easy for his opponents to attack his position, calling into question at the same time Grigor'ev's claims concerning the triumph of his own theoretical contributions to the discipline and also their implication that the only serious and ideologically well-founded work in geography was being done at Grigor'ev's own institute. In his response, Grigor'ev argued that many of the speakers had misinterpreted his words, but the damage had obviously been done already. In his concluding remarks thanking Grigor'ev for his report, the chair B. P. Orlov stated that 'the authority of the speaker demands the utmost attention to his ideas, which called forth a lively and heated

discussion' (Doklad akad. A. A. Grigor'eva 1948, p. 194). However, noting the differences in view which had surfaced in the meeting, Orlov rather pointedly observed that 'no doubt the works of Academician Grigor'ev have very great principled significance. But it would be incorrect to suggest that he has accomplished everything, as Academician Grigor'ev himself admits' (Doklad akad. A. A. Grigor'eva 1948, p. 194).

Dénouement

Many facets of this complex period in the history of Soviet geography demand further investigation. Here only an outline of subsequent events can be presented, and these concern the fate of Grigor'ev which is a matter surrounded by a certain amount of mystery. As Dronin points out, Saushkin described Grigor'ev as 'the Lysenko of geography', and yet he was a Lysenko who ended up the victim rather than the victor of the ideological discussions which followed the August 1948 session of VASKhNIL (Dronin [1997](#), p. 11). For example, in their introduction to volume 9 of *Voprosy Geografii*, K. Markov and A. Solov'ev were bold enough to argue that

in geography, as in biology, there are two directions: the Soviet one, which is based on the process of the self-development of the geographical environment, and the bourgeois one, which considers that the geographical environment develops primarily under the influence of external impulses. (Markov & Solov'ev [1948](#), p. 8)

Dronin avers that the former refers to landscape science and the latter to Grigor'ev's geography.²¹ Whilst Grigor'ev's concept of the single physical-geographical process may have attracted considerable opposition, the theory which grew out of that, namely that of the 'single social-geographical process', which he began to speak about from the mid-1940s, probably provoked even more. He describes the latter in his already cited 1946 article as concerned with 'the complex of socio-economic processes, developing on a given territory in its interaction with the physical-geographical process present on that territory' (Grigor'ev [1946a](#), p.142). By 'complex of social-geographical processes', he goes on, 'we understand the broad complex of interconnected processes of the economic exploitation of resources and the realisation of the potential possibilities of that territory, processes of the distribution of production and processes corresponding to those' (Grigor'ev [1946a](#), p. 142). The external expression of the social-geographical process was above all the cultural landscape (by analogy with physical landscapes which were seen by Grigor'ev as the outward expression of the physical-geographical process). Pointing out that the motor of the complex process is 'the process of development of human society' (Grigor'ev [1946a](#), p. 142), Grigor'ev noted that one of the principal aims of Soviet economic geography is to study the peculiarities and advantages of the social-geographical process under the Soviet system and economy, by comparison with its peculiarities in capitalist countries, in order to maximise the potentials of the former. It is unclear whether, by extending his process theory to embrace human society in this way, Grigor'ev was seeking to assert his dominion over economic

geography as well as physical geography. But in a situation in which the importance of the divide between physical and economic (human) geography had been stressed by the subject's ideologists, not least by Grigor'ev himself, it was extremely risky to indulge in the attempt to theorise about the relationship between human society and the physical environment, particularly in obscure language which did not obviously resonate with Marxism.

The events which unfolded during the period 1950-1951 leading up to Grigor'ev's downfall are clouded in obscurity. Clearly, doubts about his developing ideological and scientific ideas were only part of the story. An array of institutional, political and personal factors seems also to have been involved. The scene was set by an article, 'Detached from Real Life', which was published in the Party journal *Kul'tura i zhizn'* in March 1950 (V otryve 1950). This was an attack on Grigor'ev and the work of the Institute of Geography. The article led to the establishment of a commission to investigate the workings of the institute. Baranskii's memoirs hint at a certain amount of ensuing skulduggery, with behind-the-scenes plans to rescue Grigor'ev, and one of his allies even being appointed vice-chair of the commission (Baranskii [2001](#), pp. 143-44). In June, 1950, the Academy of Sciences issued an ordinance concerning the scientific work of the institute and the position of its cadres (Postanovlenie [1950](#)).²² This repeated many of the points made previously in the *Kul'tura i zhizn'* article. It was noted that, although the institute had done valuable work, there were also 'large deficiencies' in its performance, which it summarised into five areas: firstly, the institute's theoretical work being divorced from the practice of socialist construction; secondly, the mistaken nature of a number of the director's theoretical views; thirdly, an absence of criticism and self-criticism in the work of the institute; fourthly, incorrect forms and methods of planning and organising scientific work; and finally, absence of the necessary links with the country's geographical organisations.

With regard to Grigor'ev personally, the ordinance noted that, whilst he had done some significant practical work in the past, he had later taken 'an incorrect path by the construction of artificial, scholastic conceptual schemes which do not reflect the real development of the physical-geographical environment' (Postanovlenie [1950](#), p. 571). His idea of 'the single (social) geographical process', it was stated, confused natural and social laws of development whilst his notion of the 'intensity of the physical-geographical process' was to a considerable degree speculative. Members of the institute were criticised for failing to investigate the director's mistaken conceptions and for doing nothing to counteract the institute's growing isolation and inability to address the country's real needs. It was noted at the same time that those who disagreed with Grigor'ev's views had been forced out of the organisation.

In the meantime, and perhaps inevitably, Grigor'ev's enemies took advantage of the situation to add further to his humiliation. Thus K. K. Markov published an article in the Society's journal entitled 'The Mistakes of Academician A. A. Grigor'ev' which levelled many of the same accusations as those contained in the Academy's ordinance but in addition indicted him for his unjust discrediting of many important and respected Soviet geographers (Markov [1950](#)). Another article in the same journal was based on a report given by the Leningrad economic geographer O. A. Konstantinov to a combined session of the Society and of the Leningrad University Geography Faculty held on 27 December 1950

(just three days after the death of Berg). The author noted that in the 1920s Grigor'ev had been a keen disciple of Hettner and a proponent of the notion of a unified geography which he helped to disseminate across the discipline. Later, in the light of Stalin's strictures concerning the need to combat anti-Marxist ideology in the sciences, Grigor'ev appeared to change his position. But latterly, according to Konstantinov, he had reverted to his old Hettnerite views of a unified geography by developing his idea of a social-geographical process. Grigor'ev's views on economic geography, according to this writer, were bourgeois and derived from the camp of vulgar geographical materialism. But because they were often couched in Marxist terminology, they were to be regarded as particularly dangerous.

Grigor'ev lost the directorship of the institute in 1951, to be succeeded by I. P. Gerasimov. However, he continued to work at the institute, heading the section on the history of geographical thought.

Conclusion

The post-war period was clearly a time of considerable rivalry between geographers based at the Institute of Geography in Moscow, and at Moscow and Leningrad universities. Much of the rivalry seems to have derived from historical, institutional and personal factors, though it is often difficult to distinguish the latter from scientific and apparently ideological differences. It is clear that there were indeed genuine scientific differences between the various protagonists, notably between those who adhered to the tenets of landscape science and those who followed Grigor'ev in wishing to build a new geography focusing around the concept of the geographical envelope. Much difficulty clearly flowed from Grigor'ev's attempt to claim for his 'process' approach the status of orthodoxy despite its uncertain scientific standing at the time. In this sense, as in scientific disputes in other times and places, the disagreements are obviously bound up with cruder struggles for power, influence and resources going on beneath the high-sounding and largely reasoned discourse at the surface. But whereas in all societies such discourse is designed to appeal both to the scientific community at large and to the politically powerful more particularly, in the present case the appeal to the powerful becomes more overt through the need to demonstrate ideological rectitude as well as scientific veracity.

In geography, unlike biology, neither side in the ideological and scientific debate emerged victorious, though it is interesting to note the particular ideological constructions which both sides erected in furtherance of their interests. Thus by the early 1930s Grigor'ev had become concerned to develop a new geography in the face of Stalin's cultural revolution. He resurrected the concept of the geographical envelope and, by attempting to build on this a specific new idea, namely that of the 'single physical-geographical process', he was able to pose a significant challenge to the prevailing concepts of landscape science. But despite the scientifically progressive character of many of Grigor'ev's ideas, particularly in regard to the idea of the earth as a system, he was unable to demonstrate that there was indeed only a single physical-geographical process as against the multiplicity recognised by other scientists. Since the only reason for advancing the idea of a single

process appears to have been an ideological one, namely its apparent accordance with Engels' notion of the movement of matter, this aspect of his thought can be regarded as political rather than scientific.

For his part, Berg was concerned to defend the central tenets of landscape science against Grigor'ev's assaults by showing that the former were not ideologically objectionable whilst the latter were groundless at best and simple nonsense at worst. But the tenets of landscape science were not always well founded scientifically or logically, and were subsequently much modified (Sukhova [1981](#)). Moreover, Berg's stubborn loyalty to Hettner's ideas seems difficult to explain, particularly since Hettner's notion of landscape was much more nebulous than that of Berg. Indeed, Berg's loyalty can be regarded as essentially political—based on what he believed Hettner's approach contributed to geography's standing as an independent discipline—rather than scientific. In other words, as with Grigor'ev, Berg's scientific principles were not based on science alone.

Ultimately it was decided that there was room in Soviet physical geography for both landscape science and for Grigor'ev's process approach, though the idea of a single physical-geographical process itself was quietly dropped. This decision was arrived at by the geographers themselves rather than by the politicians or the ideologues. In other words, whilst ideology had certainly helped oil the wheels of scientific debate in the late Stalin period, it did not determine its eventual outcome. In geography scientific development was influenced by a host of factors, among which scientific credibility was by no means the least important.

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Notes

¹See also Shaw and Oldfield ([2007](#)).

²From the Greek word *khoros*, meaning region or place. Hettner argued that geography should study the spatial distributions of both physical and human phenomena and their mutual interrelations in places and regions of the earth's surface. In his view, this would endow the discipline with its own unique approach and thus secure a place among the sciences. Berg fully endorsed Hettner's understanding of geography, arguing that his natural units or landscapes corresponded with Hettner's idea of regions.

³Because Marxists held that the laws governing the physical world must not be confused with social laws, approaches such as that of Hettner which appeared to advocate the study of their mutual interaction were treated with suspicion. For this reason physical and economic (or human) geography were regarded as two separate (albeit interrelated) disciplines. However, the exact relationship between the two sides of the subject remained a matter of some dispute throughout the Soviet period.

⁴Berg's book, *Geographical Zones of the Soviet Union* (1947), was the third edition of his book originally published by Vavilov's institute in 1930 and by the agricultural publishing house, Sel'khozgiz, the following year. A second edition came out in 1936, reprinted in 1937 (Berg [1930](#), [1931](#), [1936](#)).

⁵The group were associates of Lysenko anxious to prevent the election of the latter's opponents to the Academy. See Adams ([1980](#), p. 188) and Kremmentsov ([1997](#), pp. 62-63).

⁶According to Grigor'ev's biographer I. M. Zabelin, Grigor'ev joined the Party in 1946 (Zabelin [1976](#), p. 62).

⁷The Union of Towns was a semi-official organisation set up during the war to help with war relief and supplies.

⁸The quotation is cited in Zabelin ([1989](#), p. 227); see also Dronin ([1997](#), p. 10).

⁹E. Yu. Petri was professor and first head of the department of geography at St Petersburg University, 1887-1899.

¹⁰As noted above, Berg had defined a landscape as a 'single harmonious whole', blending different geographical elements together (Berg [1947](#), p. 5). In his letter to Saushkin of 13 January 1949, Berg writes: 'As regards my infelicitous phrase about the "harmony" of landscape, by this I merely wished to signify that all elements of a landscape (or aspect) are closely linked with one another. I agree that this term was unfortunately chosen; it would have been better to speak of interconnectedness. I gave no other meaning to the understanding of harmony, of course, and in the nature of the case could not have done so' (Saushkin [1976](#), p. 14).

¹¹A lengthy discussion of the debates in genetics and their political ramifications will be found in Kremmentsov ([1997](#)). Sessions similar to that which took place in the Institute of Geography occurred across the Soviet sciences in this period.

¹²ARAN, *fond* 804, *opis'* 3, *delo* 42.

¹³According to Hettner's neo-Kantian understanding of geography, it was one of the spatial or chorological sciences in contrast, for example, to chronological sciences like history or geology. This did not mean that geographers could ignore time or substance, but simply that these were of

secondary significance since geographers were primarily concerned with the spatial distributions of phenomena and in the ways in which phenomena interacted in space. Berg followed Hettner in this but, perhaps like Hettner himself, did not always explain such subtleties clearly.

¹⁴The relationship between the availability of heat and moisture in the environment is one of the main factors governing vegetation patterns and hence, it was believed, landscapes. It was therefore seen as key to dividing the earth's surface into natural regions or 'geographical zones'.

¹⁵Armand worked at the Institute of Geography, but seems to have been something of an amaverick.

¹⁶When the Academy of Sciences institutes moved to Moscow in 1934, the Geographical Society remained in Leningrad, most probably because it had its own premises.

¹⁷It is noteworthy that Yu. G. Saushkin, whose publication of his late-1940s correspondence with Berg on the occasion of the centenary of the latter's birth in 1976 has been referred to above, states that Berg was not always supported by his Leningrad colleagues at the time and that he even met with 'evident incomprehension and ill will' on the part of some. By contrast, he asserted, Berg always enjoyed the support of the Moscow geographers in his struggles to uphold landscape geography and the geographical synthesis (Saushkin [1976](#), p. 10). This drew forth a sharp protest from the Leningrad geographers in an issue of the Society's journal, and a further exchange later the same year (Kalesnik *et al.* [1977](#); Saushkin [1977](#); *Ot redaktsii* 1977). Thus the disputes of the late 1940s still resonated 30 years later.

¹⁸*Vsesoyuznaya Akademiya Sel'sko-khozyaistvennykh Nauk Imeni V. I. Lenina*, The All-Union Academy of Agricultural Sciences named for V. I. Lenin.

¹⁹For the personalities featuring in the debate on genetics in the later 1940s, see Kremontsov ([1997](#), pp. 158-83).

²⁰It is interesting to note that the critical speeches were duly reported in *Voprosy Geografii* volume 7 'very much moderated', in Saushkin's words, 'but giving an impression of the discussion' (Saushkin [1976](#), p. 11).

²¹Sukhova ([1981](#), pp. 167-69) points out that one of the key debates of the period concerned the ultimate origins of the forces governing change in landscapes and the geographical envelope—whether they were external or internal to the phenomena concerned. The process approach as described by Grigor'ev was felt by many to privilege external forces (most notably, solar radiation), calling into question the dialectical view that matter changes and develops primarily as a result of its own internal forces acting in contradiction to one another (Muraveiskii [1948](#), p. 139; Brotskii [1948](#), p. 145).

²²See also 'O nauchnoi deyatel'nosti' (1950), and in addition Grigor'ev ([1950](#), p. 45) where he admits his mistakes, though coupling the *mea culpa* with a further attack on Berg and on the geographers associated with Moscow University, the geographical publishing house, and 'in part' the Geographical Society who, he states, 'passing off their mistaken views as genuinely Marxist geographical science, attempt to monopolise geographical opinion'.