

The Author Accepted Manuscript of the paper: Kislenko I., Kulczycki E. (2026), "Western influence or local efforts? John Bernal and the Soviet organization of scientific information". Journal of Documentation. Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JD-03-2026-0158>

This author accepted manuscript is deposited under a Creative Commons Attribution Non-commercial 4.0 International (CC BY-NC) licence. This means that anyone may distribute, adapt, and build upon the work for non-commercial purposes, subject to full attribution. If you wish to use this manuscript for commercial purposes, **please visit Marketplace**

Western Influence or Local Efforts? John Bernal and the Soviet Organization of Scientific Information

Ivan Kislenko¹, Emanuel Kulczycki^{2,3*}

¹Scholarly Communication Research Group, Adam Mickiewicz University in Poznań, Poland

²German Centre for Higher Education Research and Science Studies, Berlin, Germany

³Humboldt-Universität zu Berlin, Berlin, Germany

* kulczycki@dzhw.eu

Abstract

Purpose – This article examines the relationship between John Desmond Bernal (1901-1971) and the Soviet approach to organizing scientific information, focusing on the establishment of the All-Union Institute of Scientific and Technological Information (VINITI).

Design/methodology/approach – First, we highlight that the current science of science historiography carries a certain imbalance in acknowledgement of Western and Eastern contributions to the field during the Cold War. Then, we trace how Bernal was generally canonized in Anglophone histories of the science of science and how this canon was subsequently mapped onto and essentialized with the Soviet developments. Additionally, we reconstruct early Soviet initiatives in abstracting, indexing and information policy, highlighting the importance of the existing local scientific culture for future organizational innovations. Eventually, we engage with the archival materials from the Cambridge University Library (Bernal Archive) to support our argument in favor of a rather locally emerged approach than externally imposed influence.

Findings – Drawing on the newly consulted materials from the Cambridge “Bernal Archive,” we argue that the idea of VINITI and the general Soviet approach to the organization of scientific information may be better understood as the outcome of endogenous Soviet trajectories that emerged as a natural expansion of the Soviet scientific efforts.

Originality/value – This paper is a systematic attempt to balance the narratives in science of science canonical history to appreciate locally emerged scientific traditions instead of imposing explanation models based on Western external influence.

Keywords: Soviet scientometrics; Soviet science; Bernalism; Science planning; Science studies

Introduction: Highlighting the Imbalances in the Science of Science History

The science of science (SciSci-hereafter) origins and its myth of creation are currently constructed around key figures from the West, canonizing predominantly Eugene Garfield and Derek De Solla Price as the “founding fathers”. Indeed, *Little Science, Big Science* and the introduction of the *Science Citation Index* are considered as the milestones that shaped the discipline’s foundations (Garfield, 1964; Price, 1986). Deeper historical exploration would bring us to the figure of John Bernal, his book *Social Function of Science* (1939) and to “Bernal Plan”, i.e. *Provisional Scheme for Central Distribution of Scientific Publications* (Bernal, 1948). This trio was canonized as the field’s briefest history not least thanks to the efforts of Garfield (1998, 2007, 2009) himself.

He is also associated with another classical milestone—the foundation of the Institute for Scientific Information (ISI) in 1956 (Wouters, 2017) which was responsible for Journal Citations Reports (integrated with Web of Science) currently owned by Clarivate. While ISI significantly institutionally influenced the field, it is worth mentioning that even the name is identical to that of the Soviet Institute for Scientific Information opened in the USSR in 1952, later renamed the All-Union Institute for Scientific and Technical Information (VINITI). Garfield (2002) openly acknowledged that he named ISI after VINITI to convey a sense of authority and grand mission.

Even though the Ossowskis (Ossowska & Ossowski, 1935) coined the term “science of science” and provided the very first program for the emerging scientific discipline, it was indeed Bernal who actually put quantitative reflection on science into practice and gave it its fullest expression in his works. He posited the key provisions of an alternative organization of science, underscoring the role of the collectivist perspective and even urging to abandon the use of scientific journals. He called for the accumulation and distribution of publications in a centralized manner by means of a specialized depository (Bernal, 1939, 1948). This proposition became a subject of (fervent) discussion after its presentation at the Royal Society Scientific Information Conference in 1948 (e.g., Thompson & Baker, 1948).

Some works emphasize the influence of Bernal’s vision on Soviet plans in organizing VINITI (Aronova, 2021; Duff, 1997; Hammarfelt & Dahlin, 2024a, 2024b; Muddiman, 2003; Roth, 2026). These articles typically note this briefly, as one element among others, without examining it in detail. However, they contributed to the vision of his de-facto influence on the idea of VINITI which remains an ambiguous and under-researched topic.

While parallels with the socialist approach to science organization are noticeable, existing literature tends to essentialize similarities between the two and does not allow us to indisputably claim that it was Bernal's ideas which served as the organization's cornerstone.

Publications typically indeed emphasize the resemblance in approaches supported by mentions of his visits to the Soviet Union, overlooking the ideas that originally emerged locally. It is plausible that Soviet scholars gradually developed their own approach and Bernal's proposals were actually in tune with the Soviet ones and not vice versa—the level of mutual influence is not evident. As a public figure with visibility, reputation and direct contacts in the USSR, Bernal was a convenient choice for canonization from a Western perspective. This is not to suggest a deliberate misrepresentation in existing literature or intentional preferable choice towards a significant person in the history of science, but to highlight the predictable outcome, when a particular figure is more visible, documented and legible to the Western audiences.

Truly, the canonized version of history largely foregrounds Western countries, even if the Soviets often have not hesitated to merge Western approaches with their own local scientific innovations, taking advantage of such a union (see Graham, 1975). Nevertheless, the Eastern Bloc, too, saw both a theoretical development of similar ideas and a factual rearrangement of the system of publications and scientific practices. For example, Soviet scholars were actively engaged in the discussions on science planning advancements, the organization of scientific labour, the maximization of scientific collective efficiency and were theorizing on research evaluation, starting from the 1920s (Graham, 2015). They were also occupied with issues of publication organization, access to periodicals, abstracting methods and with Marxist critique of capitalist science. All these efforts were mostly invisible to Western scientists. Nevertheless, the "Visible college" of British Marxists and Bernal personally (Werskey, 1978) openly expressed their fascination with Soviet ideas at the Second International Congress of the History of Science in London in 1931 (Graham, 1985; Ienna & Rispoli, 2019, 2021).

If the history of the 1920-1930s can be considered as early attempts to reflect the emerging field, then after WWII SciSci blossomed in the USSR (see Aronova, 2011; Gindilis, 2011). The key contributions are traditionally associated with the Kyiv and Moscow scientific schools of Gennadiy Dobrov and Vasiliy Nalimov. Their aspiration to analyse science as a collective endeavour manifested itself in their most significant works—*Nauka o Nauke* [Science of Science] (Dobrov, 1966) and *Naukometriya* [Scientometrics] (Nalimov & Mulchenko, 1969). They were developed at about the same time as the first attempts of history canonization through an edited volume that commemorated Bernal's legacy (Goldsmith & Mackay, 1964). A variety of contributions from the Eastern bloc laid the groundwork for the new discipline—*naukoznawstwo*, *nauka o nauce* and *naukometriya*—the name of contemporary scientometrics. These are not English terms and originally emerged on the Eastern side of the Iron Curtain.

Taking this context into account, the main aim of this paper is to systematically examine the relationship between Bernal (including his alleged decisive intellectual influence) and the Soviet organization of scientific information eventually reflected in VINITI's foundation. Existing scholarship has repeatedly noted this relationship without making it a separate subject of coherent inquiry and we aim to close this lacuna directly. To research the relationship between the influence of external scientific authority and the success of local research efforts, we base our argument on 1) reconstructed canonization process of the narrative that underlines Bernal's influence on the Soviet approach in this sphere embedded in the idea of VINITI; 2) highlighted achievements of Soviet scholars in their efforts to organize science in the Soviet Union in the 1920-1930s; 3) analysed archival materials from the Cambridge University Library (Bernal Archive) in regard to his communication, travels and reports connected to the USSR.

Considered together, we argue that current historiography, while acknowledging local developments, still tends to privilege the narrative of individual influence, particularly through the figure of Bernal, rather than trace the co-evolution of similar institutional logics in the Soviet context. This is not the claim that no exchange occurred (in fact, this is undeniable and well-documented) – where it was possible the influence spread beyond one single direction – but rather that VINITI's foundation can be better explained as the continuous endogenous efforts of Soviet scientists than as the imprint of a single external visionary. Paradoxically, this approach had been extensively criticized by the scientist himself, who advocated for the inclusion of a collectivist, externalist model in scientific practice instead.

Data and Methods

In this article, we analyse three complementary bodies of material:

1. *Archival documents:* The core archival corpus comes from the Cambridge University Library (Bernal Archive) and includes personal correspondence of Bernal with Soviets–Nesmeyanov and Khrushchev, travel itineraries, visit reports, institutional memoranda related to his trips to the Soviet Union (1930s; late 1940s-1950s) and documents linked to his public positioning on Soviet science.
2. *Soviet legal-administrative and institutional documents:* We examine decrees and organizational texts on library services, abstracting and scientific information (chosen selectively within the 1917-1960 timeframe).
3. *Published literature:* This includes Bernal's programmatic writings (1939, 1948, 1957), contemporaneous commentaries (e.g., by Garfield), and recent historiography on VINITI. We also draw on early Soviet discussions of science organization, later Soviet monographs and memoirs.

We combine the following analytic procedures:

a) Process tracing of influence claims: We reconstruct sequences that connect Bernal's proposals, his USSR visits and Soviet organizational decisions. We also distinguish direct transmission (documented handover, instruction, or design input) from similar solutions arising under analogous constraints.

b) Reception and canonization analysis: Using citation chains, editorial paratexts, commemorative volumes and review essays, we track how the narrative that Bernal's ideas were implemented in VINITI's foundation and more broadly in the socialist vision of science was stabilized in Anglophone scholarship.

c) Comparative reading of public vs. internal assessments: We compare Bernal's public praise of the Soviet approach to organizing scientific information with his own reports and with internal diagnoses of organizational shortcomings to identify dissonances between external essentialized representation and operational realities.

Tracing the Canonization of Bernal's Influence on Soviet Vision of Science

There is an evident assumption that ideas developed by Bernal significantly influenced the SciSci development in the Soviet Union and were eventually reflected in the foundations of VINITI. This line of descent is often assumed from clear congruence of his vision with approaches which emerged in the USSR (Aronova, 2021; Duff, 1997; Hammarfelt & Dahlin, 2024a, 2024b; Muddiman, 2003; Roth, 2026). Soviet scholars have also acknowledged Bernal's fundamental role, but such acknowledgement rarely goes beyond a brief mention (Chernyi, 2005; Mikhailov et al., 1976; Mikhailov & Gilyarevsky, 1971; Nalimov & Mulchenko, 1969). Notably, there is not one coherent study that would substantiate this supposed inheritance of thought, except rare examples analysing Bernal's reception in the Eastern Bloc (Surman, 2026). This gap deserves a separate consideration: How did Bernal become fused with VINITI's conceptualization—and, more broadly, Soviet vision of science?

Usually, this phenomenon is explained in two ways. First, Bernal's ideas resonated well with those that were eventually put in VINITI's institutional design and therefore, to claim a certain inheritance is reasonable. Second, such a line of concession is established through Bernal's many links to the USSR—especially to those associated with VINITI's foundation: Sergei Vavilov, Alexander Nesmeyanov and Alexander Mikhailov (see more on their legacy here: (Foskett, 1990; Solovyov, 1999; Solovyov et al., 1996)). Consequently, we trace how these two moves reinforce themselves across literature based on the selected appropriate examples rather than attempting to draw an exhaustive survey. Still, there is no particular contribution that would target the Bernal-USSR relationship in terms of intellectual influence and this is why we rely on the existing implications on the topic often positioned within bigger authors' research ambitions.

The tendency to attribute VINITI's conceptualization to Bernal is well-exemplified as follows: "the thoughts of a central, and socialist, planning system for science as laid forward by the British philosopher J.D. Bernal became influential for the visions guiding the building of VINITI" (Hammarfelt & Dahlin, 2024a, p. 7). This paper is a rare instance of work devoted solely to the Institute's history, published in English and not authored by (post-)Soviet scholars. While Bernal is mentioned as part of the intellectual background, this analysis focuses primarily on VINITI's internal logic, specifically the concepts of concentration, abstracting and pre-printing.

The same authors reconstruct this perspective further: "VINITI's preprint system can be seen as an early attempt to implement what British scientist J.D. Bernal had envisioned in *Social Function of Science* (1939). (...) The Soviet system, with its focus on rapid dissemination and centralised control, was perhaps the most significant realisation of this vision." (Hammarfelt & Dahlin, 2024b). The article has already become a key reference and is cited in ways that encourage more linear readings of Bernal's influence than the authors themselves may intend: "Indeed, Bernal's ideas for the centralized organization of scientific communication influenced the All-Union Institute for Scientific and Technical Information (VINITI) (...)" (Roth, 2026).

The authors reinforce this connection with a reference to Aronova's book, where she advocates a similar perspective: "testimony to Bernal's influence is his repeated meetings with both Vavilov and Nesmeyanov during his many travels to the Soviet Union, and his paper urging for a centralised information system was commonly referred to in the USSR (Aronova 2021: 137)" (Hammarfelt & Dahlin, 2024a, p. 7). If we follow this reference to Aronova, we will find the following: "Bernal *most likely* (authors' italics) gave Nesmeyanov the text of his planned presentation at Royal Society Conference since the paper was later widely cited in Soviet Union and within the Soviet bloc." (Aronova, 2021, p. 137). Finalizing this pursuit of references, we will end up with Aronova's mention of György Rózsa's book "Scientific Information and Society". This leaves us with no clear answer regarding common referencing practice, but this publication's appearance is telling in terms of how certain perception of history was subsequently coined.

It is very possible that this reference happened because the same book appears in Bernal's biography, where it also does not go beyond a simple mention (Muddiman, 2003, p. 406: footnote 19). Moreover, while describing VINITI, Muddiman (2003, p. 309) claims that "Bernal's ideas *undoubtedly* influenced these developments: in 1951, on a scientific visit to the USSR, he met Nesmyanov (last name is misspelled—authors' note/italic), the Director of the Soviet Academy, who requested information about the RSSIC conference and Bernal's proposals". In this case, we are left with no clear evidence of how Muddiman learned that Nesmeyanov was not only interested, but actually requested this information. This in fact may be the reason why Aronova writes "most likely"—evidently being familiar with this work. We were unable to find any traces of such a request in the "Bernal Archive" in his own documents regarding his trips to the USSR in March-April-December 1951. It is probable that this version of events travelled from publication to

publication, consolidating a certain perception which is not necessarily wrong, but rather unfounded.

If we trace Bernal's canonization from a historical perspective, we should consider the following. First, canonization of his understanding of science was propelled by "Bernalism"—a term "coined by liberal-minded scholars to pejoratively label British Marxist-oriented social, intellectual, and political movements focused on analyzing the social role of science" (Ienna, 2022, p. 605). Though the label itself came from his opponents, it became a marker of Bernal's activity in the Soviet Union and outside. This status is owed mostly to his work within the World Peace Council—often portrayed as the Soviet soft power (Wernicke, 1998, 2001). Bernal actively participated in its most crucial conferences during the Cold War and never hesitated to harshly criticize the West from WPC venues, gaining the reputation of someone aligned with the USSR. It is particularly noteworthy that "Bernalism" reinforces alignment of his ideas with those developed in the Soviet Union through essentialization by opponents in debates (see more on the term here: Cozzoli, 2023; Elzinga, 1988; Fuller, 2007; Jones, 1981). Everyone who promoted something labelled as "socialist vision of science" was attributed to one camp in the Cold War political and scientific confrontation. This contributed greatly to such an essentialization and to erasure of practically any distinction: Bernal became the synonym of the Soviet approach internationally. This vision was particularly present among those who ideologically opposed the Soviet perspective (see the Congress of Cultural Freedom case: Aronova, 2012; Miller Harris, 2016), identifying a danger in spreading a communist-like agenda in science rather early in history (Baker, 1939; Polanyi, 1941).

This process was reinforced by Bernal's constant visits to the USSR almost every year after 1949: "Each time, he met with the president of the Soviet Academy of Sciences, Sergei Vavilov, and, after Vavilov's death, with his successor, the chemist Aleksandr Nesmeyanov. Both Vavilov and Nesmeyanov were keenly interested in issues of information management, *which had been on the agenda of Soviet science planners since the 1930s* (authors' italics). Nesmeyanov, in particular, followed British debates on establishing a nationwide center of scientific information" (Aronova, 2021, p. 137). We see here an acknowledgement of Soviet efforts in the 1930s, but it is overshadowed by the assumption of Nesmeyanov's individual interest in English debates. It contributes to the vision that Bernal's thinking corresponded with the Soviet understandings of planned science and underlines his primacy, allocating secondary status to the local efforts.

Garfield (2002) also uses a similar strategy, while writing about a conference that took place in Washington DC (1958): "In Mikhailov's paper for the ICSI Conference, it is significant that he cited the earlier work of Bernal". It is not apparent why Garfield gives such precedence to that particular citation by Mikhailov, especially since it is not conceptual, but rather symbolic, citing not even *Social Function of Science*, but *Science in History*. Mikhailov (1959, p. 511) actually wrote nothing more than the following: "As the well-known British scientist Prof. John Bernal pointed out: 'The situation has indeed been reached in many fields where it is easier to find out a new fact or build up a new theory than to ascertain whether these have been discovered or deduced before'". Here appears

the same reference that would later be included in Muddiman's article, where he mentions it along with Rózsa's book.

Such references look even more baffling when we actually read Bernal's December 1957 paper on the forthcoming conference, where he defines the meeting's priorities: "practical point of view of the using scientist—whether he be an isolated individual depending on a small library or one who has access to a large information retrieval centre—will be kept foremost". Further, he admits that he has limited capabilities to contribute conceptually: "my own competence for dealing with the subject, after an interval of *ten years in which I have not been directly concerned with the problems of scientific information*, (authors' italics) depends entirely on this last sentence" (Bernal, 1957, p. 195).

If we deduct ten years from this paper, we will arrive exactly at the "Bernal Plan" (considered as an insidious proposal, (East, 1998)), where he systematically lays out his views on scientific publications organization which upon close scrutiny could be regarded as much in line with the eventual VINITI design. The Western public often refers to this contribution, together with *Social Function of Science*, as the primary point of this approach's manifestation (Hjørland, 2002; Vickery, 1999; Muddiman, 2005; Line, 1998). Interestingly, the Bernal Plan (1948) was actually never officially published, but it is mentioned as a classic. If someone wishes to obtain a copy, the only option is to search the Royal Anthropological Institute archive in London. Considering that it is often cited as undisputed fact, we can assume that it began to be a symbolical milestone, but very few have actually seen it with their own eyes. Often "Bernal Plan" refers to *Social Function of Science* which certainly should be analysed in tandem with the later presentation. However, due to the 1948 document's difficult accessibility, it is possible to assume that the book became more common to deal with the ideas beyond symbolic reference practice.

The majority of contributions, while acknowledging the Soviet efforts, prefer to subordinately mention them as supportive, prioritizing Bernal's role. They remain mostly oblivious to the fact that the Soviets discussed how to organize science in a similar manner starting from the October Revolution. To elaborate, we will now turn to the early history of scientific publications organization and scientific planning in the Soviet Union.

Early Soviet Ideas on Organizing Scientific Information

In 1917, Lenin raised concerns about library services organization, claiming that public libraries should exchange books with those abroad and sending them between local libraries should be free of charge (Lenin, 1933). He also claimed that additional personnel should be allocated for this purpose from the Ministry of Public Enlightenment, where "9/10 are occupied with not only useless, but also harmful labor" (ibid). The 1920 Decree made it obligatory to send a copy of any written material to the Book Chamber and to all biggest libraries (*On the Transfer of Library Service in the RSFSR to the State Publishing*

House, 1920). 1921 marked the establishment of the Foreign Literature Committee (Kominolit) which was responsible for organizing literature from abroad. Another decree obliged People's Commissariat for Education (Narkompros) to develop a system of bibliography, "for which purpose it (...) organizes bibliographic libraries (...) and coordinates the activities of all bibliographic institutions and societies" (The Decree 'On the Procedure for Acquiring and Distributing Foreign Literature', 1921).

More centralized solutions included the Scientific and Technological Department which aimed "to centralize all scientific and technical experimental work" in the country (*Decree on Establishment of Scientific and Technical Department at Supreme Board of National Economy*, 1918). In 1921, it was supported by an economic dimension with the State Planning Committee (Gosplan) foundation which had a managerial obligation to produce five-year plans. It vertically stabilized the structure of the planned economy in a variety of sectors, including science.

Another Decree proclaimed more focused goals in centralized abstracting: "a) to begin, starting from 1928, the publication (...) of annual indexes of literature published in the USSR in all branches of science; b) to publish an index of scientific literature published in the period from 1914 to 1928 in former Russian Empire and in Soviet socialist republics formed on its territory, with abstracts of only the most important works" (*On Publishing of Indexes of Scientific Literature*, 1928).

It was soon accompanied by the "Commission for the Compilation and Publication of Indexes of Scientific Literature" foundation which resolved to abstract everything published in the Soviet Union. This organization functioned until 1935 and faced substantial issues with abstracting procedures, publishing its first 1928 index only in the 1930s, and was eventually "bogged down under the weight of material and Stalinist upheaval" (Gordin, 2015, p. 250). Simultaneously, such journals as *Nauchnyi Rabotnik* (Scientific Worker, 1925-1930) and *SORENA* (Socialist Reconstruction and Science, 1931-1936) became platforms for discussion on up-to-date topics in science organization (Mirsky, 1972). In 1931, the All-Soviet Conference on Scientific and Research Planning took place, marking the first conference on this topic in world history (Bukharin & Volobuev, 1989, p. 60). At this venue, Bukharin argued for abandoning individualism in research in favor of the scientific collective and state planning (Bukharin & Volobuev, 1989, p. 84).

Generally, these topics and centralization of scientific labour became crucial in the 1920s-1930s, both in the Soviet intellectual debates and at the governmental level (Graham, 2015; Lewis, 1972; Graham, 1975). The state made its first ambivalent but repeated attempts to plan science and to organize scientific literature shortly after 1917 and then throughout the 1920s. At the beginning of the 1930s, the Soviets already had some experience in referring indexes of scientific literature, developed theoretical contributions and had thematic journals/conferences. This trajectory, established right after the fall of the Russian Empire and running through the 1920-1930s, would find its

further realization after World War II that forms a continuous domestic lineage in line of thought on organization of scientific information.

In this context, the Second International Congress of the History of Science in London (1931) took place and became widely known as a turning point in science studies history (Ienna & Rispoli, 2019, 2021). At this event, Bernal got exposed to the Soviet delegation's ideas (Needham, 1971), leading him eventually to sympathize with the planned approach to science in *Social Function of Science* and later in the "Bernal Plan" (Bernal, 1939, 1948).

Among well-known organizers of science, one rather unfamiliar figure appeared—Soviet philosopher Boris Hessen (see Korsakov et al., 2016). Having presented his report "On Socio-Economic Roots of Newton's *Principia*" (Hessen, 2009), he gained popularity in British Marxist circles almost overnight. Hessen criticized what would later be known as internalism in which science is supposedly produced by scientists isolated from external influences (Ienna & Rispoli, 2019). The Soviet philosopher favoured the opposite approach—usually called "externalism". He criticized the internalist perspective, because it ignored such factors as revolutions and class struggles. Hessen (2009, p. 43) claimed that "practice should not be explained by ideas, but on the contrary, ideological structures should be explained by material practice", and therefore "only the proletariat, which aims to create a classless society, is free from a limited understanding of the historical process and produces a true, genuine history of nature and society".

He was a member of so-called "Deborin School" that promoted "a tendency in Soviet philosophy that sought to encourage a social movement for discussing and implementing the dialectical world view in science and society" (Chilvers, 2003, p. 424). Hessen was involved in the fight against mechanists (key figures: philosopher Lyubov Akselrod; physicist Arkadiy Timiryazev) that was one of the main controversies in Soviet scientific circles in the 1920s (Hessen & Egorshin, 1927). The discussion was mostly around key achievements in contemporary science: theory of relativity, quantum mechanics, chromosome theory and their relations with Marxist philosophy. Adherents of Deborin (Soviet philosopher, one of the founders of the Institute for Philosophy at the Academy of Sciences) won this battle at the end of the 1920s, but were criticized shortly afterwards for adherence to Hegel, paying little attention to historical materialism and absence of Trotskiy-Zinoviev opposition criticism (Fando, 2024).

Before travelling to London, Hessen knew that he was under question: in June 1930, his group was accused of "usurping the position of official interpreter of Marxism from the Party" which was eventually supported even by Stalin (Chilvers, 2003, p. 425). Going to London, Hessen knew what was expected from him. Graham (1993) mentions that the Communist Party sent him there to test his "political orthodoxy" and Kolman, a delegation member, was tasked with keeping an eye on Hessen. His paper was written according to what had been expected and "strongly emphasized the role of practice in determining theory, and it obeyed Stalin's command to stress technology" (Graham, 1993, p. 149). Therefore, we should remember that intellectual dynamics in coining ideas can go beyond

the logic of open and democratic science. It can be harshly dictated by a totalitarian approach, while still being successful in both theory and practice.

Not knowing much about this context, Bernal himself acknowledged that the Soviet delegation eventually influenced his vision of science: “the Soviet delegation first brought effectively to the notice of British men of science the contributions that Marxist thought had to make to the natural and social sciences” (Bernal, 1941b, p. 280); “Hessen—[and his] article on Newton— [...] was for England the starting point of a new evaluation of the history of science” (quoted in: Ienna & Rispoli, 2019, p. 40). Later, equipped with this experience, he wrote *Social Function of Science*, where he once again emphasized that in the Soviet Union “the development of science is pushed forward according to a plan, and that plan itself forms only a part of the wider plan of material and cultural advance” (Bernal, 1939, p. 224).

Among other things, in this book Bernal explored the idea of a centralized depository that would allow abandoning journals and providing researchers with much faster communication. Nevertheless, some publications emphasize that Soviet scholars recognized the need for a similar centralization in 1934 at the International Geological Congress (Chernyi, 2005, p. 135; Fedorovskiy & Saltkind, 1934). Indeed, this subject is raised in *Science*, where they introduced the idea of “separates”, i.e. thematically divided periodicals and suggested “centralizing and systematizing these “separates” in central bibliographical institutes for every subdivision of science in every country” (Fedorovskiy & Saltkind, 1934, p. 380). Moreover, Sergei Vavilov later expressed concerns about emerging “mont blancs” and “everests” of scientific literature and suggested introducing a concise and accessible order to the accumulated information as a countermeasure (Solovyov, 1999, p. 150). It evidently appears that Soviet scholars were aware of some shortcomings, discussed the problem and even went beyond theory by attempting to institutionalize certain solutions, while precedence in other issues remains discussable. Taken together, this sequence describes a continuous sustaining strategy rather than accidental isolated innovations: the first Decrees established the control over literature circulation and extended the authority in centralized planning; later reforms gave that planning a concrete abstracting mandate and the journals and conferences provided a discursive space, where these efforts were promoted, discussed and debated.

For example, reconstruction of early abstracting and indexing traditions in the Soviet Union provided by Hammarfelt and Dahlin (2024a) also partially supports the view that Soviet innovations drew on long-standing domestic practices, rather than cropping up merely in response to Western intellectual stimuli. Their analysis situates VINITI within a broader information management genealogy that stretches back to preliminary Soviet attempts to theorize planned systems and systematize scientific literature in the 1920s. In this sense, the Soviet model of centralized abstracting is a continuation and a radical expansion of preexisting informational culture. However, the balance between endogenous continuity and external inspiration (also in the article by Hammarfelt and Dahlin) remains debatable and the degree to which Bernal’s ideas resonated with, rather than directly shaped, Soviet vision still requires meticulous historical clarification.

Such clarification can begin with the institution's own founding brief. Read as a connected sequence, the pre-war trajectory did not end with the dissolution of the Commission for the Compilation and Publication of Indexes of Scientific Literature in 1935. The Stalinist upheaval interrupted its institutional form, but the underlying mandate to concentrate, abstract and redistribute scientific literature under centralized coordination persisted as an unfinished domestic task rather than a foreign import. When the Institute of Scientific Information was founded in 1952, its statutory brief reproduced the core of this earlier programme: the open abstract journal, the compilation of reference and bibliographic literature and the systematic translation of foreign articles restated, now at an industrial scale, the abstracting ambition that the 1928 decree had set but the interwar Commission had been unable to fulfil. Seen in this light, VINITI appears less as the realization of an external blueprint than as the postwar re-institutionalization of a project articulated, attempted and stalled within the Soviet Union before Bernal's proposals began to circulate there. Therefore, the continuity is programmatic as the endogenous trajectory supplied both the institutional template and the administrative rationale that VINITI subsequently expanded.

It appears that similarity in thinking and misbalance in prominence forged a version of history where Bernal played a critical role not only in SciSci creation as a discipline, but also in shaping the Soviet program (incl. VINITI). This state of affairs requires that we investigate the real scope of Bernal's relationship with the processes in the organization of scientific information seen in the Soviet Union, not restricting ourselves to resonating narratives or meetings with Soviet scholars, but with the help of actual archival material.

Bernal in Dialogue with the Soviet Union

Bernal (1941a, 1942) was a known sympathizer of socialist science organization, constantly emphasizing its superiority over capitalist approaches. He visited the USSR several times, including during the turbulent Stalinist years in 1931, 1932, 1934 and even wrote the paper "Stalin as Scientist", underlining his positive influence on Soviet science (Bernal, 1953g).

During his first trip in July-August 1931, Bernal with a delegation visited various Soviet research institutions in Moscow and Leningrad (*Tour of British Scientists*, 1931). The itinerary included different organizations and meetings with Soviet academicians: Sergei Vavilov and the Academy of Sciences Director-Alexander Karpinskiy (*Programme for the Party of English Scientists-Arriving Leningrad and Moscow*, 1931). These meetings' agenda was often repetitive and included not only observing laboratory work accompanied by appropriate commentary from the Soviet side, but also visiting famous museums and theatres. The Soviets certainly wanted to impress foreign guests with both technological advancements and culture. No wonder that Bernal was left enthusiastic-though this attitude was not echoed by his travel companion in 1934: "...it was clear that my friend

was going to find everything that he encountered in the Soviet Union wonderful, superb and true to life and that nothing would smudge that view” (Gardiner, 1976, p. 45).

After a long absence, he revisited the Soviet Union in 1949, making frequent trips throughout the 1950s. Bernal was always welcome to share his useful admiration for Soviet science organization. He was praised as a Westerner who actually understands what true science is, criticizing his own colleagues: “In capitalist countries (...) the fate of science is in hands of those whose aim is to destroy and torture people in the name of increasing and preserving their own profits (...) Under capitalism, science does not bring happiness, but destruction” (Rozhanskii, 1951, p. 190). He usually accompanied this critique with extolling the supremacy of the Soviet approach: “Here science is no longer the handmaiden of capitalists, it is the property of the entire people (...)” (Rozhanskii, 1951, pp. 190–191). Soviet scholars were repeating similar sentiments, aligning all the speeches under one banner—as Sergei Vavilov (1949) claimed: “the doctrine of Marx-Engels-Lenin-Stalin has armed the working people of all lands with the knowledge of social laws development and has mapped out the path for the revolutionary remaking of the world.” All this portrayed a very positive public image of Soviet science, also to Bernal.

A dialogue between him and his Soviet colleagues was established also beyond personal visits to the USSR. Nesmeyanov recalled that he initially met him at the XI International Chemical Congress in London (1947) and that later they “subsequently met many times on public affairs” remaining in correspondence regarding mostly administrative issues and his trips to the USSR (Nesmeyanov, 2018). Such visits required not only well-established connections with local scientists, but also some trustworthiness which Bernal certainly possessed: not every foreigner was permitted to see Soviet institutions.

Bernal kept in touch not only with renowned Soviet scientists, but also with Khrushchev himself, who sang his praises: “your tireless efforts directed to strengthening peace among peoples, to averting war have rightly earned the deep gratitude of all progressive humanity” (Khrushchev, 1963). Their communication revolved mostly around Bernal’s position on nuclear disarmament (Bernal, 1960, 1963; Khrushchev, 1959). He also gave Bernal (1954b) an interview, instrumentalizing him to promote Soviet agenda on this topic. In letters, Khrushchev (1961) patiently explained why disarmament is not viable in the face of American imperialism. In correspondence, Bernal does not express significant interest in Soviet science, but certainly Khrushchev was not a key figure when it comes to science policy—that responsibility was assigned to one of the VINITI organizers—Alexander Nesmeyanov.

He systematically exchanged letters with Bernal, though the contents of those available in the Cambridge Archive are limited. They mostly discussed book translations or the British delegation’s arrival in the USSR. Nesmeyanov expressed his interest in British science, though not in the organizational aspect, but rather in history. He asked Bernal for help with Gilbert’s book *De-Magneto* which was to be published as part of *The Classics of Science* series (Bernal, 1953a; Nesmeyanov, 1953b). Bernal (1953c, 1953d) immediately made several requests to local professors to obtain information and Nesmeyanov (1953a)

provided a list of other books that the Soviets had, to avoid duplication in exchange. Although VINITI was founded only recently, aiming to start “the publication, beginning in 1953, of an open abstract journal (...) the compilation and publication of open reference and bibliographic literature; (...) the translation and reproduction of journal articles ordered by institutions (...)” (‘On Organization of Institute for Scientific Information’, 1952) – it does not emerge in available correspondence. One may blame that on the inherent brevity of communication leaving no space for sentimentality. Yet, later Bernal (1959) is quick to congratulate Nesmeyanov for his countrymen photographing the other side of the moon. The absence of wider discussions around VINITI proves little regarding de-facto influence, but still indicates that this was not Bernal’s primary concern in this correspondence.

He does, however, demonstrate an ambition to establish a more direct exchange of materials between the Academy of Sciences and Royal Society as follows from his conversations’ summaries with Soviet scholars. This topic surfaced already in 1949 when he wanted to obtain some issues of Soviet journals unavailable in Britain (Bernal, 1949, 1953f). In letters, Bernal (1954a) also asks to provide him with photos and with the list of institutions already visited by the British delegation: organization of Soviet research units was always of his genuine interest (Nesmeyanov, 1954a, 1954b).

Aside from crystallography, across his other reports, he also shows an inquisitiveness about VINITI. He provides a structured review of the institution’s operation, where he appears neither fully aware of Soviet developments nor instrumental in the organization’s foundation (Bernal, 1953e). His report seems rather like observations from an admiring aficionado than a text written by someone witnessing his vision being materialized. Moreover, in a subsequent letter to Nesmeyanov, he praisefully writes: “there can be no doubt that what we have seen through your kind offices has provided far the most valuable information on organization and progress of science in the Soviet Union that has ever been gathered” (Bernal, 1953b).

Bernal (1953e) reports that the Institute has already started establishing its “universal abstracting service” at “the new nerve centre of Soviet scientific information” (Aronova, 2021, p. 138). His description is probably the first report on the Institute’s inner workings done in English: “on receiving copies of the journals they are sorted and distributed to the various sections. The individual papers are then broken down. One copy of each journal is kept intact for reference, and the other is divided up” (Bernal, 1953e). Then, he describes how papers are translated into Russian by different abstracting bureaus and how they are edited. Bernal stresses several times that the abstracting process is not automated, but actually relies on working researchers’ competencies.

He is fascinated by the Soviet approach and claims that “the extent of the cover will make it probably the most representative abstracting system”, highlighting the Soviet access to Chinese sources that Britain did not have (ibid). Elaborating, he mentions a whole panel of translators who translate from a variety of languages. This appreciation aligns well with his concerns about science from other countries being incomprehensible and unavailable

for English-speakers. Impressed by the abstracting process, Bernal (1953e) also describes it precisely: "The abstracter makes the abstract of a length which he judges is appropriate to the importance of the paper or the difficulty of the language in which it is written. Foreign abstracts are longer for instance than those from Soviet journals. The abstract is then returned to the editor who then examines it, alters and shortens it if necessary, referring to the abstracter in substantial point of difference. In this way, every abstract is seen and checked through by at least two persons (...)."

Encouraged by a very positive picture, Bernal was always glad to continue his promotional campaign for Soviet vision of science internationally: "Socialist planning of science is often distorted and caricatured as an attempt to plan thoughts and inventions in advance. No such attempt has ever been made (...)" (Bernal, 1952, p. 43). Everything he witnessed in the Soviet Union was positively evaluated by him regardless of when he came: during the harshest Stalinist repressions in the 1930s, the first years of the Cold War or after Stalin's death in the 1950s.

Nevertheless, Soviet scholars have seen local science sometimes very differently. Nesmeyanov himself acknowledged issues with the actual implementation of socialist science planning. On December 17, 1956, he said: "Science in the USSR does not have centralized service. The only exception is the activities of the Institute of Scientific Information of the Academy of Sciences" (Solovyov et al., 1996), continuing: "In science we do not use the advantages of the socialist system of organization. I am not even talking about the fact that there is no state plan for scientific research" (ibid). While Nesmeyanov generally agrees that the West is incomparable to the potential of socialist science planning, he is also not fully convinced that the USSR succeeded: "it seems to me that we are largely missing those centralized measures (...) I understand that in many ways we deserve criticism for the work of the Institute of Scientific Information, but I have no doubt that the final result will be positive (...)" (Solovyov et al., 1996). This vision was partially transferred to VINITI even in official documents: "the Institute has a poorly organized study of domestic and foreign scientific and technical literature(...) Subject and author indexes to abstract journals are published extremely irregularly" (Decree №418 of USSR Council of Ministers, 1959).

These issues were discussed locally and openly underlined by Nesmeyanov. Nevertheless, tours pandering to foreigners, along with slogan-style conferences and grandiose statements, constructed a less-nuanced picture of how science operated nationally for external audiences. Bernal seems blind to those problems, promoting the essentialized Soviet approach as the most efficient to Western colleagues and unequivocally endorsing the socialist method. This zeal contributed to the Western vision of Bernal as this approach's supporter. International critics distinguished poorly between what he declared and what Soviet science actually was. Simultaneously, he validated Soviet bureaucracy's aspirations, serving as evidence that some Western scientists truly see Soviet science's superiority. However, the evident contradiction between Nesmeyanov's and Bernal's interpretations of science organization suggests that this essentialism emerged from outside.

Archival sources allowed us to present Bernal's perception of VINITI's first years of operation. Gathered material suggests that he was highly interested in Soviet ideas, traveling enthusiastically and gladly delivering lectures when invited. He also explicitly demonstrated his admiration for local achievements, writing exhaustive reports on visited institutions. The reconstructed process of Bernal's familiarization with Soviet approach starting from 1931 into the more vital 1950s visits shows no significant indication that it was the Soviet delegation which expected to learn about something he had beforehand envisioned. Rather, it was he who repeatedly expressed great fascination and deep respect interspersed with regular mentions that the West should learn from the Soviet example. This admiration can potentially be considered a diplomatic courtesy, the kind of praise that a foreign guest could express to their hosts. However, its consistency around public statements, publications, personal correspondence and internal reports demonstrates Bernal's genuine opinion rather than a simple strategic politeness.

Conclusion

This paper aimed to examine the relationship that existing scholarship has long noted but rarely investigated directly: the connection between John Bernal and the Soviet organization of scientific information reflected in VINITI. Tracing this connection required understanding how he became associated with such innovations in the first place. Bernal's canonization as the founding figure of SciSci was constructed post-factum, when the key principles of the science of science were defined in the mid-1960s and relied heavily on contributions from De Solla Price and especially Garfield. The latter was interested in the system of scientific indexes and the creation of a unit which would manage such a task. The process of theoretical investigation led both Garfield and Price to the figure of Bernal.

Gradually, he became canonized not only as the founding father of SciSci, but also as a prominent promoter of the socialist vision of science organization, solidifying his status as its international spokesperson. The essentialization of the Soviet perspective on science through Bernal's interpretation led to the situation where they became inseparable to the worldwide audience who had a poor understanding of the Soviet scientific context. These two processes—canonization and essentialization, resulted in Bernal becoming associated not only with the Soviet method, but also with the foundation of VINITI, regarded as the materialization of his ideas. Usually, the line of argumentation would refer to the similarities between their approaches and to Bernal's frequent travels to the USSR.

In this paper, we claimed that current scientific literature tends to overestimate the individual external influence of the Western scholar while downplaying the local achievements of Soviet scholars. It happens while it is known that the Soviets began work on developing a planned way of scientific practice already in the 1920s. To that point,

Bernal's model started to initially crystallize after the 1931 London Congress, where he was inspired by the Soviet delegation. Knowing the history of Soviet attempts to plan scientific research, it is reasonable to at least urge that claims of Bernal's ideas directly shaping VINITI be further contextualized and properly balanced between local efforts and praising his contribution.

Indeed, the existing narrative does not clearly establish the direction of intellectual influence. From a historiographical point of view, we currently lack the firm evidence of Bernal's crucial intervention in the Soviet intellectual landscape. Moreover, instead of selecting the natural strategy of explanation, i.e. that VINITI was rather a decisive expansion of locally emerged scientific culture, scholars tend to prefer using the external-focused model of intellectual transfer as an analytical scheme. We argue for re-assessing the extent of such influence.

Positively stated, the account we propose is one of institutional continuity. The centralized abstracting and bibliographic mandate first legislated in the late 1920s, carried through the specialist press and planning conferences of the 1930s and only interrupted (not abandoned) by war and repression, was resumed and scaled up in the foundation of VINITI in 1952. On this reading the Institute is the delayed maturation of an endogenous programme, and Bernal's well-documented enthusiasm is better understood as external recognition of that programme than as its source.

As we demonstrated in this paper, our call is based on several arguments. First of all, it is reflected in the reconstruction of the canonization processes that accompany the Bernal-VINITI case. It is further contextualized through the demonstration of local scientific culture importance that originated in the 1920-1930s. Finally, it is supported by the information available in the Cambridge Archive that does not clearly confirm that Bernal's ideas were directly implemented in the organization's establishment or that he was even aware of such plans.

Moreover, even extolling Bernal as the sole spearhead of these processes is absolutely contrary to what he actually strived for: collectivist externalist perspective on science beyond a stand-alone figure of genius unaffected by the outer world. We argue that it is much more natural to perceive locally emerged ideas and their institutional extension as a continuation of local efforts to organize science within its general socialist tradition.

Questioning the solidified canonical vision of SciSci history can be considered as a valuable intellectual exercise to appreciate local scientific histories and researchers' efforts beyond the traditional Western-centric approach. The critical study of the Bernal-VINITI case can open a bigger discussion on how we generally perceive the discipline's canon, which efforts are more appreciated and how it influences dialogue between researchers who are still affected by the same West-East dynamics within the field. We believe that highlighting the existing imbalances in canonical history of the discipline can stimulate a more reflexive conversation: rightfully appreciating the contributions that

originated in the Eastern Bloc and making researchers' communication on both sides of the former Iron Curtain more egalitarian.

Funding

This research was supported by the National Science Centre (NCN), Poland, under grant number UMO-2023/05/Y/HS2/00201, awarded to Emanuel Kulczycki. The funding agency had no role in the study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Acknowledgements

We would like to thank Dr. Alice Naisbitt and Dr. Kieron Flanagan for the assistance in obtaining the documents from Cambridge University Library. We are thankful to participants of Scholarly Communication Research Group inner-seminar and personally to professor Krystian Szadkowski and Kalina Kwiecień for valuable comments and suggestions during our work.

References

- Aronova, E. (2011). The politics and contexts of Soviet science studies (Naukovedenie): Soviet philosophy of science at the crossroads. *Studies in East European Thought*, 63(3), 175–202.
- Aronova, E. (2012). The Congress for Cultural Freedom, Minerva, and the Quest for Instituting “Science Studies” in the Age of Cold War. *Minerva*, 50(3), 307–337.
- Aronova, E. (2021). *Scientific History: Experiments in History and Politics from the Bolshevik Revolution to the End of the Cold War*. University of Chicago Press.
- Baker, J. (1939). Counterblast to Bernalism. *The New Statesman and Nation*.
- Bernal, J.D. (1939). *Social function of science*. Routledge.
- Bernal, J.D. (1941a). Present-Day Science and Technology in the USSR. *Nature*, 148(3752), 360–361.
- Bernal, J.D. (1941b). Science and Marxist philosophy. *Nature*, (148), 280–281.
- Bernal, J.D. (1942). Physical Science in the USSR. In *Science and technology in the Soviet Union* (pp. 3–6).
- Bernal, J.D. (1948). Provisional scheme for central distribution of scientific publications. *The Royal Society Scientific Information Conference*.
- Bernal, J.D. (1949). *Report on Science Section of the USSR Academy of Sciences* [Bernal Archive-8287-L-31-Visit to USSR, 1949].
- Bernal, J.D. (1952). *Marx and Science*. International Publishers, NY.
- Bernal, J.D. (1953a). *Letter to A.Nesmeyanov* [January 20, 1953-Bernal Archive-8287-J-161-Letters Nesmeyanov, 1953-1959].
- Bernal, J.D. (1953b). *Letter to A.Nesmeyanov* [October 9, 1953-Bernal Archive-8287-L-44-Visit to USSR, 1953].
- Bernal, J.D. (1953c). *Letter to E.G.R.Taylor* [January 20, 1953-Bernal Archive-8287-J-161-Nesmeyanov Letters, 1953-1959].
- Bernal, J.D. (1953d). *Letter to F.H.C.Butler* [January 20, 1953-Bernal Archive-8287-J-161-Nesmeyanov Letters, 1953-1959].

- Bernal, J.D. (1953e). *Report 1.2. On the Institute of Information of the Academy* [Bernal Archive-8287-L-44-Visit to USSR, 1953].
- Bernal, J.D. (1953f). *Report on Discussion on Exchange of Periodicals, Books, etc.* [Bernal Archive-8287-L-44-Visit to USSR, 1953].
- Bernal, J.D. (1953g). Stalin as Scientist. *Modern Quarterly*, 8(3).
- Bernal, J.D. (1954a). *Letter to A.Nesmeyanov* [January 27, 1954-Bernal Archive-8287-L-44-Visit to USSR, 1953].
- Bernal, J.D. (1954b). N.Khrushchev's Conversation with British Scientist and Public Figure John Bernal. *Pravda*, 13291(358).
- Bernal, J.D. (1957). The Supply of Information to the Scientist: Some Problems of the Present Day. *Journal of Documentation*, 13(4), 195–208.
- Bernal, J.D. (1959). *Letter to A.Nesmeyanov* [October 29, 1959-Bernal Archive- 8287-J-161-Nesmeyanov Letters, 1953-1959].
- Bernal, J.D. (1960). *Letter to N.Khrushchev* [March 31, 1960-Bernal Archive-8287-E-1.54.3-Krushchev Letters, 1948-1965].
- Bernal, J.D. (1963). *Letter to N.Khrushchev* [August 21, 1963-Bernal Archive-8287-E-1.54.3-Krushchev Letters, 1948-1965].
- Bukharin, N., & Volobuev, P. (1989). *Metodologiya i planirovanie nauki i tehniki: Izbrannye trudy*. Nauka.
- Chernyi, A. (2005). *All-Russian Institute of Scientific and Technical Information: 50 years of service to science*. VINITI.
- Chilvers, C. (2003). The dilemmas of seditious men: The Crowther–Hessen correspondence in the 1930s. *The British Journal for the History of Science*, 36(4), 417–435.
- Cozzoli, D. (2023). John Desmond Bernal and “Bernalism”. In M. Condé & M. Salomon (Eds), *Handbook for the Historiography of Science* (pp. 101–119). Springer International Publishing.
- Decree №418 of USSR Council of Ministers. (1959). *On measures to improve scientific and technical information, propaganda and publishing activities in industry, construction and transport*.
- Decree on Establishment of Scientific and Technical Department at Supreme Board of National Economy*. (1918).
- Decree 'On procedure for acquiring and distributing foreign literature'*. (1921).
- Dobrov, G. (1966). *Science of Science*. Naukova Dumka.
- Duff, A. (1997). Some post-war models of the information chain. *Journal of Librarianship and Information Science*, 29(4), 179–187.
- East, H. (1998). Professor Bernal's 'insidious and cavalier proposals': The Royal Society scientific information conference, 1948. *Journal of Documentation*, 54(3), 294–302.
- Elzinga, A. (1988). Bernalism, Comintern and the Science of Science: Critical Science Movements Then and Now. In J. Annerstedt & A. Jamison (Eds), *From Research Policy to Social Intelligence* (pp. 87–113). Palgrave Macmillan UK.
- Fando, R. (2024). A Search for Dialectical Foundations of Science: From the History of Discussions among Soviet Scientists in the 1920s and 1930s. *Journal of the Russian National Committee for the History and Philosophy of Science and Technology*, 2(4), 55–74.
- Fedorovskiy, N., & Saltkind, T. (1934). Reform in the System of Scientific Publication. *Science*, 80(2078), 380–381.
- Foskett, D.J. (1990). *The Information Environment: A World View. Studies in Honour of Professor A.I. Mikhailov*. Elsevier.

- Fuller, S. (2007). Learning from Error: An Autopsy of Bernalism. *Science as Culture*, 16(4), 463–466.
- Gardiner, M. (1976). Moscow Winter 1934. *New Left Review*, 98.
- Garfield, E. (1964). 'Science Citation Index'—A New Dimension in Indexing. *Science*, 144(3619), 649–654.
- Garfield, E. (1998). From Citation Indexes to Informetrics: Is the Tail Now Wagging the Dog? *Libri*, 48(2), 67–80.
- Garfield, E. (2002). The ISI-VINITI Connection. Remarks on the 50th Anniversary of VINITI. *Proceedings of the 6th International Conference of Information Society, Intelligent Information Processing and Information Technologies*, 409–411.
- Garfield, E. (2007). *Tracing the Influence of JD Bernal on the World of Science through Citation Analysis*.
- Garfield, E. (2009). From the science of science to Scientometrics visualizing the history of science with HistCite software. *Journal of Informetrics*, 3(3), 173–179.
- Gindilis, N. (2011). *Istoriya sovetskogo naukovedeniya (v 60–70-e gody XX veka)*. Lambert Academic Publishing.
- Goldsmith, M., & Mackay, A. (Eds.). (1964). *The science of science: Society in the technological age*. Souvenir Press.
- Gordin, M. (2015). *Scientific Babel: How Science Was Done Before and After Global English*. University of Chicago Press.
- Graham. (1993). *Science in Russia and the Soviet Union: A short history*. Cambridge University Press.
- Graham, L. (1975). The Formation of Soviet Research Institutes: A Combination of Revolutionary Innovation and International Borrowing. *Social Studies of Science*, 5(3), 303–329.
- Graham, L. (1985). The Socio-political Roots of Boris Hessen: Soviet Marxism and the History of Science. *Social Studies of Science*, 15(4), 705–722.
- Graham, L. (2015). *The Soviet Academy of Sciences and the Communist Party, 1927-1932*. Princeton University Press.
- Hammarfelt, B., & Dahlin, J. (2024a). Abstracting It All: The Soviet Institute of Scientific Information (VINITI) and the Promise of Centralisation, 1952–1977. *Minerva*.
- Hammarfelt, B., & Dahlin, J. (2024b). Soviet scientific publishing and the prehistory of preprints. *LSE Blog*.
<https://blogs.lse.ac.uk/impactofsocialsciences/2024/11/04/soviet-scientific-publishing-and-the-prehistory-of-preprints/>
- Hessen, B. (2009). The Social and Economic Roots of Newton's Principia. In P. McLaughlin (Ed.), *The Social and Economic Roots of the Scientific Revolution*. Springer Netherlands.
- Hessen, B., & Egorshin, V. (1927). On Comrade Timiryazev's attitude to modern science. *Pod Znamenem Marksizma*, (2–3), 189–200.
- Hjørland, B. (2002). Domain analysis in information science: Eleven approaches – traditional as well as innovative. *Journal of Documentation*, 58(4), 422–462.
- Ienna, G. (2022). The Double Legacy of Bernalism in Science Diplomacy. *Berichte Zur Wissenschaftsgeschichte*, 45(4), 602–624.
- Ienna, G., & Rispoli, G. (2019). Boris Hessen At The Crossroads Of Science And Ideology: From International Circulation To The Soviet Context. *Societate Si Politica*, 37–63.
- Ienna, G., & Rispoli, G. (2021). The 1931 London Congress: The Rise of British Marxism and the Interdependencies of Society, Nature and Technology. *HoST-Journal of History of Science and Technology*, 15(1), 107–130.
- Jones, G. (1981). Bernalism revisited. *Economy and Society*, 10(1), 115–123.

- Khrushchev, N. (1959). *Letter to J.D. Bernal* [September, 1959-Bernal Archive-8287-E-1.54.3-Khrushchev Letters, 1948-1965].
- Khrushchev, N. (1961). *Letter to J.D. Bernal* [September 30, 1961-Bernal Archive-8287-E-1.54.3-Khrushchev Letters, 1948-1965].
- Khrushchev, N. (1963). *Letter to J.D. Bernal* [July 6, 1963-Bernal Archive-8287-E-1.54.3-Khrushchev Letters, 1948-1965].
- Korsakov, S., Kozenko, A., & Gracheva, G. (2016). *Boris Mikhailovich Hessen, 1893-1936*. Nauka.
- Lenin, V. (1933). On the tasks of the Public Library in Petrograd. In *Polnoe sobranie sochinenij* (pp. 132–133). Politizdat.
- Lewis, R. (1972). Some Aspects of the Research and Development Effort of the Soviet Union, 1924-35. *Science Studies*, 2(2), 153–179.
- Line, M. (1998). An information world apart: The Royal Society scientific information conference of 1948 in the light of 1998. *Journal of Documentation*, 54(3), 284–302.
- Mikhailov, A. (1959). On the Functioning of the All-Union Institute for Scientific and Technical Information of the USSR Academy of Sciences. *Proceedings of the International Conference on Scientific Information: Two Volumes*, 511–521.
- Mikhailov, A., Chernyi, A., & Gilyarevsky, A. (1976). *Scientific Communications and Informatics [Nauchnye kommunikacii i informatika]*. Nauka.
- Mikhailov, A., & Gilyarevsky, R. (1971). *An Introductory Course on Informatics/Documentation*. international Federation for Documentation, The Hague (Netherlands).
- Miller Harris, S. (2016). *The CIA and the Congress for Cultural Freedom in the Early Cold War*. Routledge.
- Mirsky, E. (1972). Science Studies in the USSR (History, Problems, Prospects). *Science Studies*, 2(3), 281–294.
- Muddiman, D. (2003). Red information scientist: The information career of J.D. Bernal. *Journal of Documentation*, 59(4), 387–409.
- Muddiman, D. (2005). A new history of ASLIB, 1924-1950. *Journal of Documentation*, 61(3), 402–428.
- Nalimov, V., & Mulchenko, Z. (1969). *Naukometriya: Izuhechinie nauki kak informatsinnogo protessa*. Nauka.
- Needham, J. (Ed.). (1971). *Science at the cross roads: Papers presented to the International Congress of the History of science and technology, held in London from June 29th to July 3rd, 1931 by the delegates of the USSR*. Cass. International Congress of the History of Science and Technology.
- Nesmeyanov, A. (1953a). *Letter to J.D. Bernal* [February, 1953-Bernal Archive-8287-J-161-Nesmeyanov Letters, 1953-1959].
- Nesmeyanov, A. (1953b). *Letter to J.D. Bernal* [January, 1953-Bernal Archive-8287-J-161-Nesmeyanov Letters, 1953-1959].
- Nesmeyanov, A. (1954a). *Letter to J.D. Bernal* [January 5, 1954-Bernal Archive-8287-L-44-Visit to USSR, 1953].
- Nesmeyanov, A. (1954b). *Letter to J.D. Bernal* [March 3, 1954-Bernal Archive-8287-L-44-Visit to USSR, 1953].
- Nesmeyanov, A. (2018). *On the swings of 20th century*.
 On organization of Institute for Scientific Information. (1952). *Vestnik AN SSSR*, (10), 92.
 On Publishing of Indexes of Scientific Literature. (1928).
 On the transfer of library service in the RSFSR to the state publishing house. (1920).

- Ossowska, M., & Ossowski, S. (1935). Nauka o nauce. *Nauka Polska. Jej Potrzeby, Organizacja i Rozwój*, 20, 1–12.
- Polanyi, M. (1941). The Growth of Thought in Society. *Economica*, 8(32), 428.
- Price, D. J. de S. (1986). *Little science, big science... And Beyond*. Columbia University Press.
- Programme for the Party of English Scientists-Arriving Leningrad and Moscow*. (1931). [Bernal Archive-8287-L-4-Visit to USSR, 1931].
- Roth, P. (2026). Formalizing Informal Communication: An Archaeology of the Early Pre-Web Preprint Infrastructure at CERN. *Minerva*.
- Rozhanskii, I. (1951). J.D. Bernal (On the 50th Anniversary of His Birth). *Uspekhi Fizicheskikh Nauk*, 45(10), 169–194.
- Solovyov, Y. (1999). Academician S.I. Vavilov: The Drama of Russian Intelligent. *Voprosy Estestvoznaniya i Tehniki*, 132–156.
- Solovyov, Y., Semenov, I., Kornilov, I., Ahunbaev, I., Saukov, A., & Kunaev, D. (1996). *Alexander Nikolaevich Nesmeyanov—Organizer of science*. Nauka.
- Surman, J. (2026). The Making of Socialist Scholar: J. D. Bernal in Eastern Europe. In *Situated Marxism: Theoretical Practices in State Socialist Europe* (pp. 227–247). Amsterdam University Press/Central European University Press.
- Thompson, G., & Baker, R. (1948). Proposed Central Publication of Scientific Papers. *Nature*, 161(4098), 771–772.
- Tour of British Scientists*. (1931). [Bernal Archive-8287-L-4-Visit to USSR, 1931].
- Vavilov, S. (1949). *Speech by S.I. Vavilov at the Moscow Peace Conference* [Bernal Archive-8287-E-2.3-Soviet Peace Conference Moscow, 1949].
- Vickery, B. (1999). A century of scientific and technical information. *Journal of Documentation*, 55(5), 476–527.
- Wernicke, G. (1998). The Communist-Led World Peace Council and the Western Peace Movements: The Fetters of Bipolarity and Some Attempts to Break Them in the Fifties and Early Sixties¹. *Peace & Change*, 23(3), 265–311.
- Wernicke, G. (2001). The Unity of Peace and Socialism? The World Peace Council on a Cold War Tightrope Between the Peace Struggle and Intrasystemic Communist Conflicts. *Peace & Change*, 26(3), 332–351.
- Werskey, G. (1978). *The visible college: The collective biography of British scientific socialists of the 1930s*. Penguin Books.
- Wouters, P. (2017). Eugene Garfield (1925–2017). *Nature*, 543(7646), 492–492.