

Ideology and the Natural Sciences

A Study of Boris Hessen's 1927 and 1931 Papers on Sir Isaac Newton

Sean Winkler, Higher School of Economics (Moscow)

In 1931, Soviet philosopher, Boris Hessen presented his “The Social and Economic Roots of Newton’s *Principia*” at the 2nd International Congress of the History of Science and Technology in London, England. Hessen’s talk is considered a pioneering work in the historiography of the natural sciences, which for many scholars, marks the founding moment of the so-called ‘externalist’ approach to this field of study. Four years prior to this talk, Hessen published an article entitled “Preface to Articles by A. Einstein and J.J. Thomson” in the journal, *Under the Banner of Marxism*; a piece that he wrote in commemoration of the bicentennial of the death of Sir Isaac Newton. While this paper is also a study of Newton, some maintain that it bears a stronger resemblance to works in the so-called ‘internalist’ camp of the historiography of the natural sciences; the very method which Hessen seems to criticize in 1931. For decades, scholars have puzzled over why Hessen chose to argue for, seemingly, diametrically opposed positions. I respectfully maintain, however, that to date, they have yet to provide a satisfactory explanation as to why he would have done so.

In this paper, I argue that in 1927 and 1931, Hessen does not advance two different historiographical methods, but rather, two strata of a consistent, dialectical/historical materialist method to studying the development of the natural sciences. In the 1931 text, he focuses on the roles of so-called ‘practice’ and ‘ideology’ in the development of natural scientific theory, while in the 1927 work, he devotes his attention to the interplay between ideological persuasions of ‘materialism’ and ‘idealism’. In both instances, ideology critique plays a necessary role in scientific progress. I develop this thesis over the course of three sections. In Section 1, “The Newton Papers”, I provide general summaries of Hessen’s two texts on Newton. In Section 2, “The False Dilemma between Externalism and Internalism”, I analyze two prevalent theses from the secondary literature, the ‘deconstructive socio-political’ and the ‘dialectical ontological’, that attempt to resolve the discrepancy between Hessen’s works. I go on to show that while both theses offer important insights, they inadvertently demonstrate that Hessen was never concerned with externalism/internalism in the first place. In Section 3, ‘Ideology Critique’, I argue that while Hessen discusses Newton and the natural sciences in both the 1927 and the 1931 texts, he does not address these issues in the same respect. A series of contributions that Hessen made to *Under the Banner of Marxism* in the late 1920s and early 1930s function as a bridge between the two works, showing that he does not articulate two, diametrically opposed views, but rather, two different aspects of his dialectical/historical materialist method to the development of natural scientific theory. To support my claims, I draw from Hessen’s 1927 and 1931 papers on Newton, his previously un-translated writings, especially from *Under the Banner of Marxism*, as well as selections from the secondary literature.