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LEARNING ABOUT POLITICS THROUGH SCIENCE: POPULAR SCIENCE IN EARLY SOCIALIST YUGOSLAVIA, 1945–1950¹

Abstract

Focusing on the period of unprecedented influence of popular science in Yugoslavia following the Second World War, the article examines a combination of top-down and bottom-up approaches to linking science and Marxist philosophy of science against the backdrop of the dramatic political and cultural changes that were taking place in early socialist Yugoslavia.

Key words: Yugoslavia, socialism, popular science, Sovietization, Tito-Stalin split

INTRODUCTION

“Shall we curse the science and technology that gave a tremendous striking power to the fascist war machinery? No! Science has strengthened the progressive camp of humanity even more. The Red Army, together with the armies of England and America, is [conquering] the hearth of the war. Its victory arises from the social transformation of imperial Russia into a socialist country that has been built by a thorough application of natural sciences. Science has proved its value to the society in overcoming fascism and building a new world”.²

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² I. Supek, *Nauka i društvo*, “Priroda” 32, 1945, p. 7.

Thus, in early 1945, wrote the Croatian physicist Ivan Supek in *Priroda* (Nature), a popular-scientific journal published by the Croatian Society for Natural Sciences since 1911. Supek (1915–2007) was an unlikely candidate for the interpreter of a “partisan” vision of postwar science because he had conflicted with the Communist Party of Yugoslavia (CPY), which directed the armed resistance in Yugoslavia, over philosophy of science before the war and would soon dissent again, eventually articulating an idiosyncratic, non-Marxist epistemology of science.³ Yet the text was a version of an address he had delivered in June 1944 to the partisan “cultural workers” gathered in Topusko, Croatia, in which he, among other things, prophetically warned the unsuspecting audience of the dangers of the atomic age — months before Hiroshima and Nagasaki.⁴ With that opening article, Supek, a prewar doctoral student and a life-long admirer of Werner Heisenberg,⁵ announced a period of unprecedented importance of popular-scientific societies and publications in Yugoslavia that would last between 1945 and the early 1950s.

The war was still raging when the partisans established the Croatian Society for Natural Sciences (and published several issues of *Priroda* in Split) parallel to the largely defunct one in Zagreb, the capital of an ever-shrinking puppet-state, the Independent State of Croatia. The parallelism was short-lived, as the “partisan” Society and its publishing enterprise soon took over. The members and sympathisers of the CPY, which monopolised the power in the country by the end of 1945, took over other scientific societies as well. New ones were also established, which meant that ever more Yugoslavs could be exposed to journals, brochures, and monographs on various scientific issues ranging from the most basic to the more complex, on a scale from subatomic particles to the entire Universe. Popular-scientific publications became politically important as they showcased the successes of the USSR, especially the contribution of Soviet science to defeating fascism and (re)building socialism, and promoted “Soviet science” as a model to be implemented in Yugoslavia.

In the second half of the 1940s, before the destroyed schools were rebuilt; before the universities started producing a large qualified working force, including teachers; before the modern scientific institutions such as institutes for experimental physics in Belgrade, Ljubljana, and Zagreb were established

³ I. Supek, *Teorija spoznaje*, Zagreb 1974.

⁴ I. Supek, *Znanost i društvo*, in: *Krivovjernik na ljevici*, Zagreb 1992, pp. 253–257; cf. D. Rokсандić, *Prvi kongres kulturnih radnika Hrvatske (Topusko, 25.–27. lipnja 1944.): iskustvo i aproprijacije*, in: D. Rokсандić, I. Cvijović Rukavina (eds.), *Intelektualci i rat 1939.–1947.: zbornik radova s Desničinih susreta 2011.*, Zagreb 2012, pp. 97–118.

⁵ I. Supek, *Heisenbergov obrat u shvaćanju svijeta*, Zagreb 1986; B. Marotti, *Ivan Supek (1915–2007)*, “Prolegomena” 6, 2007, pp. 67–78.

in 1948, 1949, and 1950, respectively; and before industry became a generator as well as beneficiary of scientific knowledge, popular science in Yugoslavia came to play a central role in the dissemination of scientific knowledge — as well as political ideas. In a country with precious few scientists — only a fraction of whom were deemed loyal to the communist government, let alone ideologically reliable or even acquainted with Marxism-Leninism — articles and brochures explained scientific as well as political and occasionally even philosophical issues in simple language to the general public, specialists, and undertrained teachers. They served as *ersatz* textbooks and attracted pupils to occupations needed for the reconstruction and industrialisation of the devastated country. Such a multipurpose genre was also made possible by the fact that the boundary between specialist and popular-scientific periodicals was often permeable, and that established scientists contributed to both, some even more regularly to the latter.

This was a first concerted, large-scale effort at elaborating the purpose and functioning of science in Yugoslavia, although these issues had been fiercely debated on the Yugoslav left in the 1930s, primarily in Croatia.⁶ Despite their dogmatism, the interwar attempts to “guard” the dialectical materialism from the supposed covert attacks by neopositivism and idealism were intellectually more challenging than much of post-war popular-scientific literature, but it reached an incomparably smaller audience. After 1945, that changed. The popularisation of science, inseparable from its ideological context and content, was suddenly happening on a huge scale. In a period of severe shortage of paper — the distribution of which was controlled by the Agitprop by the Central Committee (CC) of the CPY — popular-scientific journals and brochures were occasionally printed in as many as 50,000 copies.⁷ The publications covered virtually all scientific fields, although there was a preference for physics, biology, and agriculture. Entire series (“libraries”) were started or renewed in the cooperation of scientific societies and state-controlled publishing houses across the new, federative Yugoslavia.

The genre offers an insight into the relationship between the communist government, leftist scientists, and the wider scientific community in the period of dramatic and quick-paced transformations of Yugoslavia. Such publications announced and interpreted the new science policy to expert and lay readership at a time when the CPY emphasised the role of science and scientists in the material and ideological reconstruction of the country, yet provided few — if

⁶ B. K o v a č e v i ć, *Slučaj zagrebačkih revizionista: marksizam, filozofija i znanost u radovima Zvonimira Richtmanna i Rikarda Podhorskog*, Zagreb 1989.

⁷ D. G r d e n i ć, *Atomi i molekule*, Zagreb 1946, was published in 50,000 copies, but print series of 20,000 copies were much more common.

any — concrete recipes for the transformation of science in Yugoslavia.⁸ In a period of heightened political pressure aiming at eliminating the opposition (after the Soviet-Yugoslav split in 1948, internal opposition as well), the CPY continuously postulated the ideological (re)education of the Yugoslav population as one of its central tasks, yet was aware of the limited achievements.⁹ A discrepancy existed between the ambitiously proclaimed goals and the actual investment and successes in ideological-cum-scientific education. This was not specific only to Yugoslavia, but rather a feature of Sovietisation across Eastern Central Europe, as the USSR provided a vision of the new science rather than concrete and applicable guidelines for its implementation.¹⁰ The CPY alone could not dictate the shape and role of socialist science in Yugoslavia to the scientific community according to its ambitious plans.¹¹ In the immediate post-war period, the scientific community was engaged in articulating its role within the confinements of politically and ideologically acceptable boundaries set by the CPY.

This article examines popular science in early socialist Yugoslavia as a vehicle of political-cum-scientific education. Except for an occasional letter of support to Tito and the CPY, especially in 1948 and 1949, the few existing scientific journals catering to specialised audiences avoided overtly political issues. Politically pertinent topics and narrative strategies were more common in popular science, even though not all popular-scientific publications had an explicit political and ideological purpose and content. Many articles in popular-scientific journals such as *Priroda*, *Proteus* (named after *Proteus anguinus*, an aquatic, cave-dwelling salamander endemic to the Dinaric karts, published in Ljubljana since 1933), *Nauka i priroda* (Science and nature, started in Belgrade in 1948), as well as brochures and books published in specialised popular-scientific libraries, had little or no explicit political content. Yet, political and ideological topics appeared continuously between 1945 and the early 1950s. Periodicals with an obvious propagandist goal, such as *Jugoslavija-SSSR: časopis*

⁸ J.B. Tito, *Govor Maršala Tita na sednici Akademije znanosti i umjetnosti u Zagrebu*, “Nauka i priroda” 1, 1948, pp. 3–6; M. Djilas, *Govor Milovana Djilasa o razvitku kulturnog života u FNRJ*, “Nauka i priroda” 1, 1948, pp. 3–10; R. Čolaković, *Govor ministra za nauku i kulturu Vlade FNRJ Rodoljuba Čolakovića na Prvom kongresu matematičara i fizičara FNRJ*, “Nauka i priroda” 2, 1949, pp. 571–574.

⁹ M. Djilas, *Problem školstva u borbi za socijalizam u našoj zemlji*, 3 pts., “Borba”, 3 January 1950, p. 2; 4 January 1950, p. 2; and 5 January 1950, p. 2.

¹⁰ N. Kremontsov, *Lysenkoism in Europe: Export-Import of the Soviet Model*, in: *Academia in Upheaval: Origins, Transfers, and Transformations of the Communist Academic Regime in Russia and East Central Europe*, M. David-Fox, G. Péteri (ed.), Westport 2000, pp. 179–202.

¹¹ See also L. Dimić, *Agitprop kultura: agitpropovska faza kulturne politike u Srbiji, 1945.–1952.*, Belgrade 1988, p. 115.

društva za kulturnu saradnju Jugoslavije sa SSSR (Yugoslavia-USSR: journal of the Society for cultural cooperation between Yugoslavia and the USSR), published between 1945 and 1949 under the auspices of the Soviet VOKS (All-Union Society for Cultural Relations with Foreign Countries), were more conspicuous in that regard. But since most texts it published were translations from Russian, *Jugoslavija-SSSR* reveals little about the understanding of the new political dimension of science by Yugoslav scientists. The Yugoslav press, most notably *Borba* (Struggle), the organ of the CC of the CPY, also continuously reported on Soviet science in a politically explicit manner between 1945 and 1949. But just as the Soviet-Yugoslav split following the Cominform Resolution of 28 June 1948, which expelled the CPY from the Moscow-sponsored club of communist parties, did not prompt a swift abandonment of Stalinist policies and an immediate “turn to the West”, so did the treatment of Soviet science remain ambiguous in 1948–1950, undergoing a gradual change that in certain aspects had already begun before the summer of 1948.

Somewhat ironically, given the strong emphasis on political and ideological education since 1945, “Marxism-Leninism got a significant place in ideological-political and cultural work in the sphere of education, especially in theoretical teaching of dialectical and historical materialism” only after the 3rd Plenum of the CC CPY in late December 1949, which announced distancing from the Soviet model.¹² By the time Yugoslav communists started reconsidering their commitment to the Stalinist interpretation of Marxism-Leninism and engaged with philosophical tenets of Marxist classics, including the relationship between science and ideology more seriously and freely, the tide of popular science in Yugoslavia had largely ebbed. The number of publications by the Croatian Society for Natural Sciences, once spearheading this project, dwindled as it withdrew into the safer waters of “apolitical” science.¹³ The transition lasted longer in Serbia, where in the mid-1950s controversial topics such as Michurinist biology were still occasionally covered. This shift did not mean that Yugoslav scientists gave up on socialism. On the contrary, through the opposition to the Soviet Union, many became even more aware of the role of science

¹² B. Kašić, *Marksizam-lenjinizam i KPJ 1945–1950. (Između programatskog htijenja i ideološke funkcije)*, “Povijesni prilozi” 6, 1987, p. 155n61. The purpose of education in Yugoslavia was proclaimed to be education of free-thinking, non-dogmatic and non-uniform socialist people, the opposite of what Stalinism created in the Soviet Union. Cf. D. Ćirić, *Agitprop kultura*, p. 118. See also *Rezolucija Trećeg plenuma CK KPJ o zadacima u školstvu*, “Borba”, 3 January 1950, p. 1.

¹³ Having published no books for almost two decades, the Croatian Society for Natural Sciences published 5 titles in 1945, 19 in 1946, 18 in 1947, 30 in 1948, but only 8 in 1949, when the conflict with the USSR escalated, 33 in 1950, and 16 in 1951, after which the numbers went into single digits. Ž. Dadić (ed.), *Spomenica Hrvatskoga prirodoslovnog društva, 1885.–1985.*, Zagreb 1985, p. 141.

in building a Yugoslav variety of socialism. Even when relying on Western resources and making their research ever more intertwined with that in the West, a considerable number of Yugoslav scientists continued to differentiate between “our”, socialist, and “their”, capitalist science, favouring the former.

While acknowledging the intensification of the attempts to use (popular) science as a vehicle for political and ideological education in 1945–1950, this article challenges the notion of popular science necessarily being used as a means of forced, top-down political incursion into supposedly apolitical production of knowledge. Instead, it seeks to recognise the agency of a group of (mostly leftist) scientists and popularisers of science in both interpreting and influencing the science policy at a time when the issue was not high on the party agenda.¹⁴ The project was partly a continuation of the efforts undertaken by the often fiercely anti-communist governments of interwar Yugoslavia that wanted to speed-up the modernisation through investments in education.¹⁵ Inherently political, education and culture in Yugoslavia had been politicised well before the CPY came to power and have remained so after it descended from power.

SOVIETISATION AND UBIQUITOUS IDEOLOGISATION?

The Bolshevisation of science in post-revolutionary Russia, its Stalinisation since the late 1920s, and the export of this model to the countries in the Soviet sphere of influence in Eastern Central Europe after 1945 as part of a larger project of Sovietisation, have been some of the central topics in the modern history of science under socialism.¹⁶ Though still not entirely abandoned, a view of this transfer as imposed, one-directional, and top-down, has long been challenged.¹⁷ The scope and ambition of the Sovietising project in Eastern Central Europe were indeed large and its consequences were felt in many fields of public and private life.¹⁸ In the intellectual sphere, including science, its effects were felt across the

¹⁴ For instance, just a few of the tasks assigned to Agitprop in March 1945 concerned science, and even then, it was about reconstruction of scientific infrastructure, mass education, “struggle against *bezidejnost* and apoliticism”, and ideological education of the party cadres. L. Dimić, *Agitprop kultura...*, p. 30.

¹⁵ *Ibidem*, p. 153.

¹⁶ M. David-Fox, *Revolution of the Mind: Higher Learning Among the Bolsheviks, 1918–1929*, Ithaca 1997; E. Pollack, *Stalin and the Soviet Science Wars*, Princeton 2006; L.R. Graham, *op. cit.*

¹⁷ J.L. Roberg, *Soviet Science under Control: The Struggle for Influence*, Houndmills 1998; N. Kremontsov, *op. cit.*

¹⁸ *The Sovietization of Eastern Europe: New Perspectives on the Postwar Period*, B. Apor, P. Apor, and E.A. Rees (eds.), Washington, DC 2008; N. Naimark, *The Sovietization of East Central Europe, 1945–1989*, in: *The Cambridge History of Communism*, vol. 2, *The Socialist*

region, but not evenly. The success of the Sovietisation of science in individual people's democracies depended on a combination of factors such as the balance of political power in the country, the material and human losses during the war, inherited scientific cultures, openness of borders etc.¹⁹

An important difference that sets Yugoslavia apart from other people's democracies was the fact that Sovietisation in Yugoslavia had already begun in 1945. The Yugoslav-Soviet split of 1948–1949 marked the beginning of a gradual and, in some aspects, selective de-Stalinisation in Yugoslavia, at a time when Stalinisation elsewhere was just beginning. Since 1945, the might of Soviet science, which was occasionally exaggerated (this spoke not only of Yugoslav enthusiasm but also of a sketchy knowledge of concrete structures, practices, and achievements of Soviet science among its Yugoslav sympathisers) left no space for doubt as to which direction science in Yugoslavia should be developed. Yet in this brief period of time, there was no consensus on what a "Sovietised" Yugoslav science would precisely look like. At the core of the idea was the promise of quick reconstruction, industrialisation, and modernisation by technological means, which required a large skilled workforce and ample machinery, and of consolidating the CPY's political power by eliminating the irredeemable remnants of the old intellectual system and education of a new "intellectual type" arising from, and connected to, the working class. The successes of Soviet science in peace and war in particular were used as a legitimisation of the new, socialist Yugoslavia, for only now could science fulfil its true social purpose.

A new type of relationship between knowledge and politics, introduced to Yugoslavia in 1945, has received considerable scholarly attention.²⁰ During socialist Yugoslavia, the abandonment of the Stalinist course, which the CPY had loyally followed since 1945 (in fact, since before the Second World War, when it was a persecuted clandestine organisation),²¹ and the search for an alternative path to socialism were counted as successes of the CPY. On the other hand, already since the 1980s, and more pronouncedly since the 1990s, this period has often been interpreted not as an ephemeral episode but as quin-

Camp and World Power, N. Naimark, S. Pons, S. Quinn-Judge (eds.), Cambridge 2017, pp. 63–86.

¹⁹ J. Connolly, *Captive University: The Sovietization of East German, Czech, and Polish Higher Education, 1945–1956*, Chapel Hill–London 2000; *Science Under Socialism: East Germany in Comparative Perspective*, K. Macrakis and D. Hoffmann (eds.), Cambridge, MA and London 1999.

²⁰ D. Bondžić, *Beogradski univerzitet 1944–1954*, Belgrade 2004; D. Bondžić, *Misao bez pasoša: međunarodna saradnja Beogradskog univerziteta 1945–1960*, Belgrade 2011.

²¹ I. Banac, *With Stalin Against Tito: Cominformist Splits in Yugoslav Communism*, Ithaca 1988.

tessentially characteristic of Yugoslavia under the CPY, which, even after it denounced Stalinism, would allow only limited liberalisation, often backpedaling and undoing the accomplished. The intellectual historians of socialist Yugoslavia have focused on the ideological content of, and political pressure on, the field of culture, frequently implying that socialism in Yugoslavia, especially in the period 1945–1950, politicised otherwise supposedly autonomous and apolitical artistic genres and scientific disciplines. Literature, journalism, history, and philosophy indeed were impacted first, but the CPY had significantly larger ambitions, created with the Soviet role-model in mind. Most studies have pointed, if occasionally inadvertently, to the discrepancy between the intentions and the outcome of Sovietisation of intellectual life, which was less successful than in the sphere of economy and, especially, agriculture.²²

But in contrast to the humanities and social sciences, the natural sciences remain neglected in the studies of Stalinisation and de-Stalinisation of intellectual life in Yugoslavia. The importance of history, philosophy, and economy for stabilising the achievements of the socialist revolution was more obvious and they indeed were transformed along Marxist lines more quickly and thoroughly, first in the Stalinist and then in the “humanist Marxist” interpretation of the Yugoslav making, which had less interest in, and patience for, Engels and dialectical materialism.²³ Yet the natural sciences are vital for understanding Yugoslavia’s intellectual history and the political-ideological relation to knowledge.

First, because the CPY handled the debate in the philosophy of science immediately before and after the Second World War in dramatically different ways. In the years leading to the war, it engaged in an internal fight against attempts to combine neopositivism, contemporary physics, and psychoanalysis with Marxism.²⁴ In that sense, the interwar CPY resembled the prerevolutionary Russian Marxists who, barred from participating in day-to-day political life, assigned particular importance to theoretical issues.²⁵ After 1945, on the other hand, with its prewar membership — especially those versed in Marxist philosophy — decimated in the war (only 3,000 out of prewar 12,000 members survived, but the membership grew to 140,000 in 1945 and 470,000 in 1948),

²² L. Dimić, *Agitprop kultura...*, op. cit.; M. Najbar-Agičić, *Kultura, znanost, ideologija: prilozi istraživanju politike komunističkih vlasti u Hrvatskoj od 1945. do 1960. na polju kulture i znanosti*, Zagreb 2013.

²³ V. Golubović, *S Marxom protiv Staljina: jugoslavenska kritika staljinizma, 1950.–1960.*, Zagreb 1987; P. Marković, *Beograd između Istoka i Zapada, 1948–1956*, Belgrade 1996, p. 347.

²⁴ B. Kovačević, *Slučaj zagrebačkih revizionista*, op. cit.

²⁵ G.D.H. Cole, *The History of Socialist Thought*, vol. 3, pt. 1, *The Second International, 1889–1914*, London 1963, ch. 9.

the CPY had different priorities: it faced the challenges of reconstructing the devastated country that had been underdeveloped already before the war.²⁶ As a result, in a time of heightened political pressure by the communist government, natural sciences were inadvertently given the opportunity to self-regulate to a certain degree.

Second, the period between 1945 and Stalin's death in 1953 was the height of scientific-cum-political debates and conflicts in the Soviet Union, which were often resolved through Stalin's personal intervention.²⁷ Although bent on introducing Soviet-styled science policies and structures, the Yugoslav communist leadership seems to have shown surprisingly little interest in some of the crucial debates that were unravelling in the USSR.²⁸ And since the rejuvenated CPY emerged from the war thoroughly Stalinised, its membership was mostly unacquainted with a Soviet Union other than Stalin's. That was reflected in the lack of awareness of fierce debates in the philosophy of science and the relative plurality in the Soviet Union during what Loren Graham called the "authentic phase" in the history of dialectical materialism in the Soviet Union in the 1920s.²⁹

FLUID DEFINITIONS: ANTIFASCIST, PEOPLE'S, AND PROGRESSIVE SCIENCE

Underneath a presumed agreement on what the new science in post-1945 Yugoslavia should look like and what its purpose ought to be, some differences in interpretation between the party officials and the scientific community, as well as among scientists themselves, occasionally emerged in popular-scientific publications. The few CPY members at the universities were quicker to take note of supposedly "idealist", "metaphysical", and "reactionary" understandings of science held by their "hostile" or "indifferent" — the two categories were often used interchangeably — colleagues than of the ambivalence regarding the fundamental notions in, and characteristics of, "Marxist science". Though it poses a danger of neglecting the instances of genuine interest in and engagement with dialectical materialism, Nikolai Krementsov's definition of dialectical material-

²⁶ J. Rothschild, N.M. Wingfield, *Return to Diversity: A Political History of East Central Europe Since World War II*, 3rd ed., New York 2000, p. 128.

²⁷ E. Pollock, *op. cit.*

²⁸ Party-controlled press sparsely reported on Lysenko's victory at the infamous August session of the All-Union Academy of Agricultural Sciences in 1948, and the Marr controversy prompted minimal response. See R. Lalić, *Povodom Staljinovog članka o sovjetskoj lingvistici*, "Borba", 8 July 1950, p. 2.

²⁹ L.R. Graham, *Science in Russia and the Soviet Union*, Cambridge 1993; cf. H. Sheehan, *Marxism and the Philosophy of Science: A Critical Study*, 1985; reprint, London 2017.

ism as “neither dialectical nor materialism, but a collection of nomadic quotations used to identify ‘ours’ in public discussions” aptly points to a usage of the constitutive notions that spread outside the Soviet Union, too.³⁰

In 1945, in popular-scientific publications, the new science was described as anti-fascist and cosmopolitan. Western science was praised alongside the Soviet. This was partly due to the fact that Yugoslav scientists had connections with West and Central European scientific traditions and communities since before the Second World War, whereas they knew little about developments in the Soviet Union prior to 1945, and partly to the “cosmopolitan” phase in Soviet science policy itself that ended with the introduction of Zhdanovshchina.³¹

Supek set the tone when speaking about a broad alliance of “progressive” anti-fascist science, in which American, British, French, and Soviet scientists worked together on creating a better postwar world. During the war, scientific thinking, which was at the very core of Western modernity, was not just threatened once again, as it had long been by various religious communities, but appropriated and misused for fascist purposes. The partisan victory would mark a turning point in the history of science in Yugoslavia. Once detached from the people and its economic needs, bound to academic ivory towers, and all too easily twisted to serve the reactionary agendas, now it would be put in the service of people: “In order to create a powerful industry, advanced agriculture and socialised healthcare, our entire people has to embrace natural sciences. The entire country has to become a field of scientific work, and scientific institutes and schools weapons of the people”.³²

The wartime abandonment of fundamental scientific principles was a common topic in 1945. By attacking progressive Jewish and leftist scientists, and by spreading racial theory, many intellectuals across Europe had actively supported fascism.³³ But the military defeat of fascism, Supek warned, did not mean its ideology disappeared, too. On the contrary, “Today, when we cleansed the country of occupying gangs, we still face a long and persistent fight to purge all the remains of the racial ideology, to remove all those misconceptions and mystifications upon which fascist ideology was built”.³⁴ The new science in Yugoslavia was thus initially described through its opposition towards the “old” and fascist science. The Croatian Society for Natural Sciences wanted to

³⁰ N. Kremontsov, *Stalinist Science*, op. cit., p. 294; cf. Kašić, *Marksizam-lenjinizam i KPJ*, op. cit., p. 153.

³¹ N. Kremontsov, *Stalinist Science*, op. cit., ch. 4.

³² I. Supek, *Obnova i zadaci Prirodoslovnog društva: govor dr. Ivana Supeka na Osnivačkoj skupštini Zagrebačkog odbora*, “Priroda” 32, 1945, p. 74.

³³ B. Škerlj, *Rasizem in veda o rasah*, “Proteus” 8, 1945, pp. 183–189.

³⁴ I. Supek, *Obnova i zadaci Prirodoslovnog društva*, op. cit., p. 75.

gather all “natural scientists who work along the guidelines set by the National Liberation Struggle. It is a broad field of work. And its principles are: scientific truth, freedom, and [re]building of our devastated homeland”.³⁵ Marx, Engels, Lenin, and Stalin were absent from most similar addresses that nevertheless had an explicit political purpose. That, however, speaks more about the tactics of, and relations within, the communist-led partisan movement in specific circumstances at the end of the war than about the party positions on the issues pertaining to the philosophy of science.

Prior to the establishment of new Yugoslavia, academic freedom had been “exhausted in the freedom to teach backward doctrines and ideologies, and in obstruction of all free thinking at the universit[ies]”.³⁶ In socialist Yugoslavia, the chemist Hrvoje Iveković argued, science would be given freedom, but not to propagate lies such as racial theory, even if they are built upon a tiny kernel of scientific truth regarding the biological diversity among people.³⁷ In early 1945, in a booklet *O postanku čovjeka* (The origin of man), Supek linked deliberations on the role of work in human evolution, largely within the boundaries of a simplified historical materialism, with a rebuttal of fascist biologisation of society through racial theory, explaining that the main struggle in the human history had not been the one between the “strong and weak races”. Instead, “even this horrible war that drenched the entire world in blood, is a persistent and fierce struggle between the camps of light and darkness. And in this struggle, those to whom the future belongs, who carry the progress of society, are winning, while the shattered reaction[ary forces] remain in the junkyard of human history”.³⁸

Since the revolution in Yugoslavia was supposed to bridge the gap between the people and cultural workers, including scientists, science would no longer serve as a cover for criminal ideas. And to make sure it never would again, the first task was to popularise science, so that the knowledge about the basic truths regarding society and nature could reach even the most remote areas of the country and people regardless of their class and formal education. Yet it is symptomatic that in a glossary at the end of Iveković’s booklet, dialectical materialism was omitted and the research of both nature and society was subsumed under the category of historical materialism, as it further points to difficulties that many leftist Yugoslav scientists — both “old” and those who

³⁵ Stated throughout 1945 in the section “Suradnicima ‘Prirode’” at the back cover of *Priroda*.

³⁶ H. Iveković, *Nauka i narodno-oslobodilački pokret*, Zagreb 1946, p. 9.

³⁷ *Ibidem*, p. 13.

³⁸ I. Supek, *O postanku čovjeka*, Split 1945, p. 28.

were just taking their first lessons in Marxism-Leninism — struggled with in coming to terms with dialectical materialist science.

Supek has occasionally been criticised for accepting Marxism at the expense of a supposedly trans-ideological science.³⁹ In his influential 1946 book that served both as a history of physics and an introduction to contemporary physics, Supek indeed elaborated on the superiority of dialectical materialism over bourgeois idealism, but those ten pages appeared *alongside* his overview of physics, rather than as its constitutive element.⁴⁰ And it did not prevent him from enthusiastically presenting the theory of relativity and quantum theory, which the CPY had refuted as anti-dialectical and anti-Marxist in the late 1930s.⁴¹ A Slovene author Ivo Pirkovič elaborated on the misuses of science under fascism and its prospects under socialism along the same lines, linking dialectical materialism and Einstein's work.⁴² Such “transgressions” would have prompted a forceful rebuke just a decade earlier but now, with some of the most prominent party opponents of those theories dead,⁴³ and with the party lacking qualified cadres altogether, this was noticed but mitigated, even if Supek remained under suspicion for his heterodox inclinations.⁴⁴

Calling for a broad alliance of progressive anti-fascist forces, Supek nevertheless warned that socialism means “building the society on the foundations of justice and science. Capitalism — that is anarchy and exploitation”.⁴⁵ There

³⁹ Ž. D a d i ć, *Egzaktne znanosti u Hrvatskoj u ozračju politike i ideologije (1900–1960)*, Zagreb 2010, pp. 467–470, and pp. 522–530. The critique, however, glosses over the following decades during which Supek articulated a pronouncedly non-Marxist epistemology.

⁴⁰ I. S u p e k, *Od antičke filozofije do moderne nauke o atomima*, Zagreb 1946, pp. 8–9, and pp. 185–195.

⁴¹ The CPY followed the verdict reached in the Soviet Union. See D. J o r a v s k y, *Soviet Marxism and Natural Science, 1917–1932*, 1961; reprint, Milton Park 2009, pp. 294.

⁴² I. P i r k o v i č, *Prirodoslovlje na grmadi*, “Proteus”, 8, 1945, pp. 26–29.

⁴³ It is a historical irony that the Croatian fascists executed Zvonimir Richtmann, one of the most prominent “heretics” at the Left, and Ognjen Prica, one of main guardians of the dialectical-materialist orthodoxy, together at the same day in 1941, as part of an undifferentiated communist group. See B. K o v a č e v i ć, *Slučaj zagrebačkih revizionista*.

⁴⁴ Arhiv Jugoslavije (AJ), collection 317, Savet za nauku i kulturu Vlade FNRJ 1950–1953 (1945–1953), 67–499–500, Karakteristika: Ivan Supek. In 1945, the Croatian Agitprop sent Supek's manuscript, *Razvoj moderne fizike* (The Development of Modern Physics), to the Agitprop of the CC of the CPY for assessment. The central Agitprop replied, “The book ‘The Development of Modern Physics’ by Supek cannot be published, because it is incorrect.” See Agitprop CC CPY to Agitprop CC CPC, 16 October 1945, HDA 1220.3.5.19.1, Evidencije poslanih i primljenih depeša CK SKH, box 59. What precisely was “incorrect” was not specified, but Supek revised the book and gave it a new title, *Od antičke filozofije do moderne nauke u atomima* (From Ancient Philosophy to the Modern Science About the Atoms), under which it was published in 1946. See Agitprop CC CPC to Agitprop CC CPY, 4 December 1945, HDA 1220.3.5.19.1, Evidencije poslanih i primljenih depeša CK SKH, box 59.

⁴⁵ I. S u p e k, *Od antičke filozofije do moderne nauke o atomima*, *op. cit.*, p. 383.

was awareness that, despite its contribution to the war efforts, Western science functioned within an obsolete socio-political framework. As Yugoslavia's relations with the Western allies deteriorated — even earlier than the relations between the Soviet Union and the Western allies — attacks on the “imperialist” science, deemed inferior to the socialist one because it was governed by capitalist principles, intensified. The notion of science in the service of imperialism, until recently reserved for German science, now became applied to the capitalist West.⁴⁶ Only individual leftist scientists from the West, such as Irène and Frédéric Joliot-Curie, or Julian Huxley, were reported about as progressive counterpoints to the reactionary policies pursued by their countries.⁴⁷

THE GOAL: SOVIET SCIENCE IN YUGOSLAVIA

Frustrated by the lack of interest in “dialectical materialism in science” and even open contempt towards it by large parts of scientific community, the few leftist scientists, with the support of the CPY, drew on the Soviet resources to portray the Soviet-styled science as a viable goal and a necessary remedy for the Yugoslav predicament.⁴⁸ As the attempts to attract “bourgeois intellectuals” to the “progressive camp” until the new socialist intelligentsia was created

⁴⁶ *Pabirci*, “Priroda” 35, 1948, p. 270; F. Joliot-Curie, *Atomska energija u službi smrti*, “Priroda” 36, 1949, pp. 231–235.

⁴⁷ F. Žolio-Kiri, *Budućnost atomske energije*, “Nauka i priroda” 1, 1948, pp. 12–15; P. Savić, *Povodom hapšenja u Njujorku naučnice Irene Žolio-Kiri*, “Nauka i priroda” 1, 1948, pp. 64–66; *Profesor Džulien Haksli o svojim utiscima s puta po Jugoslaviji*, “Borba”, 13 June 1948, p. 2.

⁴⁸ The results were especially poor with university professors who were unable or, more often, uninterested in embracing Marxist-Leninist positions in science. Institutions that were supposed to lead the ideological revolution proved to be impervious to materialist science. The “enemies” vastly outnumbered sympathizers, let alone trusted party members. Following the 1948 Cominform Resolution, the “characteristics” of all the faculty members were composed, which included their social background, conduct during the Second World War, stance towards the new government, personal traits such as reliability or laziness, professional traits including specialist expertise, relationship with students, quality of teaching, and, finally, “knowledge of Marxism-Leninism”. Members of the CPY were not necessarily considered “good experts”, although that often was the case (a combination of “poor expert” and ideological and political “enemy” was much more common). One’s political-ideological inclination did not necessarily mean that s/he was considered knowledgeable in Marxism-Leninism or capable of applying it to scientific work. The intentions or depth of understanding of Marxism-Leninism of some faculty members at the University of Belgrade who showed interest in Marxism-Leninism, participated in circles where it was debated, or appeared politically close to the CPY, were scrutinized, too. AJ, collection 317, *Savet za nauku i kulturu Vlade FNRJ 1950–1953 (1945–1953)*, 67–92, *Ideološko-političke karakteristike profesora univerziteta (1949)*. See also D. Bondžić, *Komunistička vlast i profesori Beogradskog univerziteta*

yielded little result, popular science appeared as a means of circumventing, rather than co-opting, the old structures in education and science that refused to acknowledge the scientific foundation of Marxism and that all science is inherently materialist.

Just like the daily press, *Priroda* reported on the breakthroughs in Soviet science already since 1945, and the collaboration of scientific societies and publishing houses across Yugoslavia intensified, even in republics where modern scientific institutions were yet to be established, such as Bosnia and Herzegovina.⁴⁹ Reports on various Soviet scientific institutions (mostly from Russia and, occasionally, Ukraine), anniversaries of prominent scientists, and overviews of progress in specific fields predominated. These were often translations from Soviet specialist and popular scientific journals,⁵⁰ and more rarely texts by Yugoslav authors.⁵¹ However, while the image of the archetypical Soviet scientist — including, importantly, women⁵² — and the scientific institution, especially the Soviet Academy of Sciences, was persuasively, if not accurately, presented, the ideological as well as factual content of the Soviet literature was not elaborated, but reproduced in simplified terms and large quantities.⁵³

The Yugoslav daily press stopped reporting on Soviet science, as well as other aspects of life in the USSR except for the purposes of “unmasking the situation” there, by mid-1949, and focused on Yugoslav science instead.⁵⁴ The break, however, was not that clear in popular science. While *Priroda* also stopped bringing news from Soviet science, projects such as translation of books from Russian that had been initiated earlier were yet to be finalized. After all, as a prominent party ideologue (and future celebrity dissident) Milovan Djilas warned at the 5th Congress of the CPY following the Cominform Resolution, “In the light of attacks by the CC CPSU(b) on our party it is also possible that a certain underestimating of the development and tenets of contemporary theoretical thought in the USSR would appear. Such phenomena should be con-

1945–1954, in: *Desničini susreti 2009: zbornik radova*, D. Roksandić, M. Najbar-Agičić, I. Cvijović Javorina (eds.) Zagreb 2011, pp. 199–208.

⁴⁹ *Iz sovjetske nauke*, V. Gligić (ed.), 3 vols., Sarajevo 1946–1947.

⁵⁰ V.L. Komarov, *Nauka i rad*, “Jugoslavija-SSSR” 1, 1945, pp. 25–27; S.I. Vavilov, *Osnovni naučni problemi Akademije nauka za nastupajuće petogodište*, “Jugoslavija-SSSR” 11, 1946, pp. 22–25; S.I. Vavilov, *Sovjetska nauka u službi otadžbine*, Belgrade 1946; Topčijev, *Spremanje naučnih kadrova u SSSR*, “Jugoslavija-SSSR” 27, 1948, pp. 30–31.

⁵¹ D. Bošković, *Sovjetska nauka kroz sovjetske naučnike*, “Jugoslavija-SSSR” 5, 1946, p. 40; R. Lalić, *Veličina sovjetske nauke*, “Jugoslavija-SSSR” 27, 1948, pp. 26–29; A. Belić, *Tridesetogodišnjica sovjetske nauke*, “Jugoslavija-SSSR” 30, 1948, pp. 1–2; B. Zihlerl, *Lenjin i nauka*, “Jugoslavija-SSSR” 30, 1948, pp. 3–7.

⁵² A. Babić, *Žene — naučni radnici u SSSR*, “Jugoslavija-SSSR” 7, 1947, pp. 13–15.

⁵³ B. Kašić, *op. cit.*, p. 208; cf. L. Dimić, *op. cit.*, p. 64.

⁵⁴ A noticeable exception was R. Lalić, *op. cit.*

demned as incorrect not only because of our relationship with the USSR but also because in that way ideological development and progress in our country is obstructed, too”.⁵⁵

As the CPY feared internal dissent and tried to identify the “healthy forces” that Stalin invited to sanction the deviations of Tito and the CPY leadership,⁵⁶ the Agitprop started paying increased attention to the content of politically less explicit publications, including *Priroda*. *Priroda* was described as

a popular-scientific journal that leads an ideological struggle against reactionary worldview on nature and society, [and] for a scientific worldview. Collaborators are mostly experts who stand on correct positions. The questions of Marxism-Leninism are not treated in particular. The style of writing is popular but entirely scientific. In no. 8/1948 an article “For Progressive Michurinist Science”, translated from Russian, has been published, and in no. 9 Dr Ivo Ehrlich writes about the creation of man, harshly attacking religious teachings about it. Almost every article fights against reactionary ideas. In no. 7/1948 there was a report about the arrest of Irène Joliot-Curie in America, with a commentary, and an article “Science in the ‘cultured’ West”, which unmasks the reactionary character of bourgeois science. The journal allots much space to the successes of Soviet science. The journal is interesting and widely read, evidence of which is the circulation of 20,000 copies.⁵⁷

The CPY assessed the Zagreb *Priroda* more positively than the CPSU(b) assessed its Soviet namesake, which in 1948 was attacked for failing to act as “a fighting, militant periodical of scientific materialism, a journal with its own, Soviet face”.⁵⁸ However, the CPY Agitprop noted that, as other Yugoslav publications, the Zagreb *Priroda* also “lag[ged] behind the events, address[ed] issues according to a pattern, and [was] unable quickly to re-orientate [itself] in relation to the new situation and problems that our country is facing. This is felt particularly regarding the [Cominform] resolution, the slander about our country and problems connected to it, building socialism in our country with [our] own forces. They do not elaborate on these issues sufficiently from the political perspective, and even less so theoretically, through the field of their [expertise]”.⁵⁹ A more locally engaged perspective was needed, the report concluded. Rather than merely being translated, articles in Russian should be used as a template for texts specifically on Yugoslav issues, which would better resonate with the Yugoslav audience.

⁵⁵ M. Djilas, *Izveštaj o agitaciono-propagandnom radu*, in: *V. kongres Komunističke partije Jugoslavije, 21.–28. jula 1948.: stenografske bilješke*, Zagreb 1949, pp. 209–210.

⁵⁶ I. Banac, *op. cit.*

⁵⁷ Hrvatski državni arhiv (HDA), 1220, Centralni komitet Saveza komunista Hrvatske (CK SKH), 2.3.3.1.7. Podaci o radu na području školstva (1946–1952), box 12, p. 4.

⁵⁸ N. Klementsov, *Stalinist Science*, *op. cit.*, p. 243.

⁵⁹ HDA, 1220, CK SKH, 2.3.3.1.7. Podaci o radu na području školstva (1946–1952), box 12, p. 7.

The news about the victory of Lysenko's biology and the consequent Michurinist campaign, which started in the second half of 1948, were at the same time the pinnacle and a beginning of the end of explicit political engagement of *Priroda* and the Croatian Society for Natural Sciences. On the other hand, by giving space to the controversy over Michurinist biology, the Serbian Biological Society from Belgrade maintained the political edge well into the 1950s. Established in May 1947, it quickly became the main advocate of Soviet science, especially agrobiolgy, in Yugoslavia. The central task of the Society was defined as "the struggle for correct scientific ideology and philosophical thought in biology" — for *idejnost*, for dialectical materialism, for Darwinism, and against idealism and mechanism, against "biologising sociology" and "sociologising biology".⁶⁰ Whereas *Priroda* targeted lay and younger readership, the Belgrade journal *Nauka i priroda* (Science and nature) was announced as "that necessary link between entirely popular and purely scientific [type of] journal".⁶¹ A significant effort was invested in reaching teachers. The tone of *Nauka i priroda* in 1948 differed in an important regard from that of *Priroda* in 1945. The science in Yugoslavia was no longer to be (just) anti-fascist; now it was to serve as a "guide to action" in the context of Yugoslavia's First Five-Year Plan, initiated in 1947. By following the Soviet example, people's science would contribute to building socialism in Yugoslavia.

But a notion that would soon become the central trope in the Yugoslav critique of the Soviet Stalinist culture and science had already appeared: there is no place for forced uniformity of thought in Marxism-Leninism. The Serbian philosopher Dušan Nedeljković warned, "The established natural and social-historical laws are not and should not be understood as dogma and a rigid template [*šablon*] but a guideline for elucidating future development of nature and history. [...] As a guideline for action, science in the hands of progressive classes — in whose interest can be only scientific truths that reflect reality in development, vanishing of the old and the emergence of the new — allows understanding of that development [...]"⁶² Nedeljković linked the practice as the validator of scientific truth with the "false theory of 'pure' or 'objective' science that merely investigates the laws of phenomena, but for which 'things in themselves' should, according to Kant's recipe, forever remain unknown and unknowable".⁶³ To the contrary, he argued, "The proof of correctness and truth of science is that it allows us, [after] learning about the conditions under

⁶⁰ *Aktuelni zadaci Srpskog biološkog društva*, "Nauka i priroda" 1, 1948, p. 51.

⁶¹ *Novopokrenuti beogradski časopis 'Nauka i priroda'*, "Priroda" 35, 1948, p. 154.

⁶² D. Nedeljković, *Nauka rukovodstvo za akciju — opštenarodna nauka*, "Nauka i priroda" 1, 1948, p. 3.

⁶³ *Ibidem*, pp. 4–5.

which something appears, to produce it by subduing it to our goals, [and thus] as Engels wittily said, we transform a ‘thing in itself’ into a thing for us”.⁶⁴ In capitalism, moreover, different scientific branches were separated, which broke the “organic unity of science” and implied that any law transcending the confinements of a single discipline was unscientific.⁶⁵

As the role of science became even more emphasized with the First Five-Year Plan, scientists again outdid the politicians in pointing to the contribution of their disciplines.⁶⁶ The imperative of usefulness of scientific knowledge appeared, although to a smaller degree than had been the case in the Soviet Union during the Great Break and again in 1948, when Lysenko attacked geneticists’ research as idle waste of time and resources.⁶⁷ The prominent biologist Siniša Stanković embraced elements of this jargon when he argued that no one could expect to work exclusively on abstract topics, and told a story of a Belgrade professor who studied fleas for twenty years, while agriculture in Serbia suffered because of disease and parasites.⁶⁸ “Today, earlier forms of scientific work are no longer possible, nor is the artificial division between theoretical work and the needs of technology and practice possible, which had previously been left to pure empiricism and routine”.⁶⁹ Coming from the mouth of an established scientist and a prominent party member, this remark is a reminder that not only junior scientists or those wanting to ingratiate themselves with the communist government articulated militant ideological and political attitudes regarding science. Interestingly, neither Stanković, who translated Lenin’s classic *Materialism and Empirio-criticism*, nor other authors touched upon the notion of *partiinost* (even if they emphasized *ideinost*), which was at that point being revived in the Soviet Union.⁷⁰

Jovan Hadži, professor of zoology at the University of Ljubljana, who would soon become another prominent opponent of Michurinism, in 1948 argued that

⁶⁴ *Ibidem*, p. 5.

⁶⁵ *Ibidem*, p. 5.

⁶⁶ N. F i n k, *Važnost životinja u Petogodišnjem planu*, 2 pts, “Priroda” 35, 1948, pp. 15–22; and pp. 57–61; F. T u ć a n, *Važnost naših ruda i minerala u Petogodišnjem planu*, “Priroda” 34, 1947, pp. 361–366; I. B r i h t a, *Elektricitet i kemija*, Zagreb 1946; V. L o g o m e r a c, *Kako dobivamo željezo*, Zagreb 1950.

⁶⁷ J. T. A n d r e w s, *Science for the Masses: the Bolshevik State, Public Science, and the Popular Imagination in Soviet Russia, 1917–1934*, College Station 2003.

⁶⁸ This was a classic Michurinist trope, abundantly used against the Soviet “formal geneticists” in order to discredit their “fruitless” work on *drosophila melanogaster*, as opposed to the contribution of the Michurinist biology in form of various new plant and animal sorts. See D. J o r a v s k y, *The Lysenko Affair*, Cambridge, MA 1970.

⁶⁹ S. S t a n k o v i ć, *Naučno istraživački rad i planska izgradnja naše zemlje*, “Nauka i priroda” 1, 1948, p. 9.

⁷⁰ N. K r e m e n t s o v, *Stalinist Science*, *op. cit.*, p. 216.

“biology in the USSR is just one of the examples clearly showing that there is no basis for the myth of Marxist tyranny over science”.⁷¹ In contrast to the supposed “total freedom” of science and scientists, Hadži defended the virtues of “Organized and planned work [which] prevents waste of energy and resources, but does not necessarily mean some [kind of] obstructing clever initiative; to the contrary, in the collective, planned, and organized work a lucky finder and creator of new brilliant ideas will find the reliable assistants and collaborators necessary for thorough development and eventual application of the new idea”.⁷²

Such deliberations on “socialist science” as part of the campaign pushing for Sovietization of science in Yugoslavia not only continued after the Soviet-Yugoslav split, but in fact became constitutive to the more “autochthonous” deliberations on the relationship between politics and knowledge, ideology and science, in the 1950s — which were no longer announced and interpreted through popular-scientific publications. As part of the effort to present the newly-articulated Yugoslav path to socialism as more faithful to the “original” Marxism-Leninism, the intertwining of science and politics became directed against its previous role-model.

CONCLUSION

In late 1949, when the federal government awarded the Croatian Society for Natural Sciences a prize for its efforts in popularization of science, two elements that had characterized the Society’s works since 1945 were conspicuously omitted in a report in *Borba*.⁷³ The Society’s interest in Soviet science was not mentioned and the entire effort would appear apolitical, were the “working masses” not singled out as its main benefactors. Instead, the local, Yugoslav character of the Society’s efforts was emphasized. The timing of the prize seems somewhat ironic. It came at a time when the CPY was starting to reexamine its cultural policy in the light of growing awareness that the public expressions of loyalty to Marxism-Leninism would not suffice to counter the ever fiercer attacks launched by the Soviet Union and its satellites. By 1950, the CPY encouraged the reading of classics such as Engels’ *Anti-Dühring* and *Ludwig Feuerbach*, and Lenin’s *Materialism and Empirio-criticism*, enabling

⁷¹ J. H a d ž i, *Dostignuća sovjetske biologije*, “Jugoslavija-SSSR” 30, 1948, p. 10.

⁷² *Ibidem*, p. 8.

⁷³ *Hrvatsko prirodoslovno društvo s uspjehom vrši popularizaciju nauke među radnim masama*, “Borba”, 29 January 1950, p. 3.

a less dogmatic engagement with dialectical materialism, but at the same time, dialectical materialism stopped being a central issue of Yugoslav Marxism.⁷⁴

The publications connected to the Croatian Society for Natural Sciences reveal that precisely at this time the Society first drastically decreased and then abandoned propagation of Soviet science as well as of materialism as the only “correct” philosophy of science.⁷⁵ The reason for this was not that the government and party leadership concluded that the project of mass political (re)education through popular science was unsuccessful.⁷⁶ In any case, such a conclusion would be difficult — if not impossible — to substantiate, especially because the project continued for a while in Serbia, before a new wave of interest in dialectics, including in science, emerged in the 1960s, albeit among sections of (natural and social) scientists rather than prominent Marxist philosophers.⁷⁷ Rather, the decrease in volume and intensity of using popular science as a vehicle of political education primarily reflected the break with the Soviet Union, including the end to a supply of Soviet popular-scientific literature, the growing ideological heterogeneity of the Yugoslav scientific community, and the versatility of the discourse. The transition was made easier by the fact that the emphasis could have been shifted relatively easily to the scientific service to socialism in a “purer” form, as opposed to bureaucratic deviations under Stalin. This established a framework that could accommodate a relatively wide range of positions, and which demanded political rather than ideological loyalty.

Whereas the prewar conflict on the Left took place among the members and sympathizers of the CPY and therefore the party could expect a principled agreement on the issues pertaining to the Marxist philosophy of science, in the post-war period the party realized it could hardly make the same presumption, given the dramatic change in the composition of its membership and the fact that it addressed a larger community that inevitably included hostile elements as well. Taking into consideration nuanced differences between the intertwined notions of politics and ideology allows differentiation between political pressure manifested in the minimal requirement of not challenging the new political order in Yugoslavia and the more specific and demanding requirement to

⁷⁴ B. Kašić, *op. cit.*, p. 205.

⁷⁵ This was specific for the Croatian Society for Natural Sciences, but elsewhere the ideological mobilization of science and scientists was still emphasized. See S. Stanković, *Za pravilan razvoj bioloških nauka kod nas*, in: *Prvo savetovanje biologa N. R. Srbije, od 17. do 19. januara 1950. u Beogradu*, Belgrade 1950, pp. 50–52.

⁷⁶ Ž. Dadić, *op. cit.*, p. 418.

⁷⁷ This was visible in the Belgrade journal *Dijalektika: časopis za metodološko-filozofske probleme matematičkih, prirodnih i tehničkih nauka*, started in 1966, with Siniša Stanković as a chief editor, or volumes such as *Marksizam i prirodne znanosti: izbor tekstova*, V. Micekin and I. Salečić (eds.), Zagreb 1974.

embrace dialectical materialism as the guideline in one's scientific work. The former demand was easier to meet and verify than the latter. The ambiguous stance of the CPY after 1945 enabled a bottom-up approach to defining the role of science and scientists in the new political order, as scientists did not necessarily wait for signals from the party and government. The new form and role of popular science in Yugoslavia, together with unprecedented infrastructure at disposal of scientific societies, offered ample opportunities to articulate and disseminate visions of how science in socialist Yugoslavia would and should look in the dramatically changing socio-political environment.

Summary

The article examines the multiple roles of popular-scientific literature in early socialist Yugoslavia, focusing on the attempts to politically and ideologically (re)educate the scientific community and the general public. Published on an unprecedented scale, popular-scientific publications articulated new visions of the political role of science defined as anti-fascist, progressive, dialectical-materialist, Soviet, and (Yugoslav) socialist science. Because the Communist Party of Yugoslavia lacked ideologically educated cadres and had more pressing matters to deal with, party members and sympathizers in the scientific community negotiated the dramatic political and ideological changes with few concrete guidelines — but with a vast repository of Soviet popular-scientific publications to rely on. They employed different strategies to redefine their role in the new socialist society in relation to the establishment of socialist Yugoslavia and the Soviet-Yugoslav split that precipitated search for an alternative path to socialist modernity in the 1950s, which were visible in popular scientific journals and brochures.

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