establishment, as to the prominence to be given to western models and neoliberal economic policies as applied in education.

The book is based on the author's field work in Russia during the time in which a draft proposal for the reform of teacher education was first introduced, and then discussed and debated in a variety of settings around Russia. The presentation and examination of events is not strictly chronological; the aim is to delve into the relationships and connections (among both institutions and individuals) that underlay the reform proposal. (Throughout, the anonymization of the names of individuals and institutions, while likely justified by the setting and the nature of Russian policy debates, makes the study less valuable as a specific policy analysis.)

Aydarova notes the (probably intentional) "mask of uncertainty" in initial debates that allowed institutions to interpret the proposed teacher education reform variously. Other parts of the analysis borrow other aspects of theatrical language and production: the roles of director(s) and actors, the notions of front stage and backstage, and the place of auditions. In the Russian context, where many political decisions are still hidden from public view, this sort of metaphoric treatment seems particularly apt.

The author generally aligns with the emerging critique of neoliberal models of economic development, and the forms of schooling and worker preparation often associated with those models: education should prepare students to take on productive, flexible roles in the national economy, and education should therefore stress acquisition of general skills and dispositions ("the ability to work collaboratively on a team") as opposed to concrete knowledge. Teacher education systems in Russia had stressed the centrality of the latter, and so there was a strong perception among government officials and corporate executives that preparation of teachers would need to change.

In terms of how Russian teacher education policy has actually changed, there is no dramatic conclusion in this work: education in Russia remains a contested domain, as it is in many parts of the world. Many Russian teacher-educators reacted negatively to the neoliberal aspects of the proposed reform. Aydarova sides with the critics of neoliberal educational approaches and the assumption that there are "universal" ways of addressing educational problems. But she also recognizes that these ideas have considerable currency both internationally and in Russia.

Another strong feature of the work is the author's own self-aware and reflexive stance. Aydarova is the consummate "insider-outsider"; this aspect of her position comes up a number of times during her work in Russia. She is aware of the complexities this presents and deals with them in a professional, transparent way. This is a rich analysis of Russian policy making, and the framework of political theater encourages us to think in new ways about what has happened and what may happen in that domain.

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From Russia with Code: Programming Migrations in Post-Soviet Times. Ed. Mario Biagioli and Vincent Antonin Lépinay. Durham: Duke University Press, 2019. ix, 372 pp. Notes. Bibliography. Index. Figures. Tables. $109.95, hard bound; $29.95 paper.

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"If you want to harm the country, invest in training IT specialists in the Russian Federation. You couldn't harm Russia more" (1). With this warning, Dimitry

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Marinichev, Russian presidential Internet ombudsman, addressed in October 2015 the gathered IT entrepreneurs, government officials, and academics at the Russian Civic Chamber. He was referring to the paradox of the westward brain drain of Russian computer scientists (RCS), the very proud prodigy of the Soviet type of Russian education, at the time of the emerging new Cold War and western economic sanctions against Russia. On the one hand, RCS is the recognized elitist brand of coders in the global world of IT technology, while on the other, they are the walking contradiction of the Russian geopolitical and cultural location—wanted for their skills yet condemned for *where* and *how* they obtained those skills. From such a contradiction they emerged in the global circulation of knowledge as a new hybrid identity.

The book is a product of over three hundred in-depth interviews conducted from 2013 through 2015 in and outside Russia by a team of fifteen scholars from Russia, the US, France, the UK, and the Netherlands, all connected to the Science and Technology Studies (STS) Center at the University of St. Petersburg (EUSP), funded by the Ministry of Education and Science of the Russian Federation.

The book consists of thirteen ethnographic essays and an introduction featuring a variety of topics pertaining to Russian IT science, technology, and innovation enterprises while interrogating the ways in which IT specialists' mobility and interconnectivity simultaneously democratize and surveil the Russian public sphere. The book is divided into four topical clusters: "Coding Collectives" (three essays), "Outward-Looking Enclaves" (five essays), "Russian Maps" (one essay), and "Bridges and Mismatches" (four essays). Each of the essays captures the unique ethnographic context of the RCS in Russia, the US, the UK, Israel, Finland, and Estonia and document a transformation, as the editors put it, of "turning communist mathematicians into post-Soviet software entrepreneurs, political activists into civic hackers, academic theoreticians into entrepreneurs, Jews in Russia into Russians in Israel, used-car salesmen in Vladivostok into web designers, KGB technicians into US security specialists, nationalists into cosmopolitans, and back to nationalists, etc." (7). On the one hand, the essays' ethnographic method preserves the heterogeneous RCS profiles, motives, goals, and transformations, and on the other hand, as "heterogeneous populations without essential features or stabile identity" (6), they are shot through with a distinctly Russian character as a cultural family resemblance.

The Cold War and the political, economic, and cultural asymmetry between the USSR/Russia and the west had differently shaped the trajectories of their IT technologies. Unlike the US, where IT technologies grew out of the combination of technical skills and entrepreneurial culture, today's prestigious brand of Russian software specialist grew out of the Soviet educational system's emphasis on producing highly skilled academic mathematicians. Starting from this presupposition, the book opens with Ksenia Tatarchenko's essay mapping the post-WWII origins of Soviet programing. Rather than capital investment, Soviet programing was intricately bound to the centralized state economy, to the educational reforms of the 1980s, and to Andrey Ershov's vision of the Russian's "new man" (56) for the socialist "information society." Marina Fedorova analyzes how the success of Yandex, the popular Russian Internet search engine, grew with the community while accumulating knowledge and, by way of training new programmers with different educational backgrounds in and through daily engagement with coding, established lucid and stabile coders. Ksenia Ermonshina explores the ways in which Russian civic hacking democratized computer coding by providing the public with an easy and an informed access to the law as a way to circumvent the corrupt "Russian bureaucracy" (105). Aleksandra Masalskaya and Zinaida Vasilyeva show how the collaboration between programmers and the local industry-university community turned Vladivostok into an outward-looking IT hub despite permanent social and

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economic crisis. Alina Kontareva interrogates the rise of Kazan′'s IT business startups with state help to provide infrastructure and institutional settings; the rise of the IT sector in Novosibirsk and Tomsk, analyzed by Andrey Indukaev, illustrates how in a deep Siberian hinterland, Russian noncommercial programing research can be successful and in demand beyond Russia. Aleksandra Simonova compares and contrasts "everyday rhythms" (188) of the inner-city Neuron creative hackerspaces with the Skolkovo Innovative City state-run techno-park outside Moscow. Daria Savchenko covers the phenomenon of the Estonian programming boom, and Dimitrii Zhikharevich provides a comprehensive analysis of the post-Soviet RCS brain drain. Irina Antoschyuk unpacks how diasporic ethno-based contacts versus professional interpersonal contacts mediate RCS migration to the UK. Diana Kurkovsky West's ethnography of Russian Jewish programmers in Boston documents their personal reasons for why these talented programmers opted for upper middle-class corporate positions rather than programming jobs. Marina Fedorova focuses on the difficulties of RCS to succeed in Israel's militarized IT technology. Lyubava Shatokhina, in contrast, analyzes the RCS' easy landing in a culturally familiar IT setting in Finland.

The most striking achievement of this in so many ways outstanding book rests in its ethnographic accounts of the RCS as a new type of power-knowledge intellectual, what Michel Foucault called a "'specific' intellectual" (Foucault, *Power Knowledge*, 1989, 128) as opposed to the dissident intellectual. Although not put explicitly, but reading between the lines, RCS is one who extends techno-scientific knowledge as an advancing strategy of capital and state (Marinichev's concern). Respected as a vector of power, this "academic cossak" (251) of algorithms, composite assemblages of spatial, cultural, and organizational singularities, yet inscribed by Russian character, is at once desired and feared. Far from a dissident's swansong, RCS' truth is local, strategic, and consequential. One concludes that RCS nomadic traversing the global and domestic IT landscape, displaced and never-departed local ecology of the code, escapes the ethno-diasporic identity that mutates while on the go, seemingly disseminating Ershov's vision of "the brotherhood of man and machine" (56) inside and outside Russia.

The book is easy on technical language and should be accessible to a wide readership beyond Russian studies.

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