I was honored to be asked to participate in a joint Chinese–South Korean Conference on “Marxism and Modernity,” held in Jinju, S. Korea in October 2014. This resulted in an article, “Multilevel Democratic Iterative Coordination [MDIC]: An Entry in the ‘Envisioning Socialism’ Models Competition,” published (in English) in Marxism 21 (Spring 2015), an excellent journal from the Institute for Social Sciences, Gyeongsong National University, Jinju, Korea (see http://marxism21.gnun.ac.kr for details).

That article is devoted to outlining a comprehensive model of democratic socialist planning (MDIC); it covers a range of topics, including specifically socialist criteria for evaluation and reward. I would like to focus here on just one element: a simple numerical example of what is known in the planning field as the “transportation problem,” or (more formally) the “network flow minimization problem.”¹ For a long time — in fact, since my undergraduate years when I began to grapple with theoretical and practical problems of planning, a half-century ago (gulp!) — I have seen in this problem a way of delivering a central claim of socialist theory: There exist dimensions of economic efficiency that simply cannot be achieved in a regime of decentralized agents acting in mutual isolation on the basis of self-interest. To capture these potentials, a central planning function is required.²

While the numerical model in the Marxism 21 article is far more accessible than the formal linear-programming framework that gave rise to it, it still requires some calculation; it also appears in a source whose content is

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¹ A key source is Leonid V. Kantorovich, The Best Use of Economic Resources (Harvard University Press, 1965). Kantorovich was a founder of Soviet mathematical economics, and (later) a Nobel Laureate. See also Maurice Dobb, “Kantorovich on Optimal Planning and Prices,” Science & Society, Spring 1967.

² This speaks to the classical “market socialist” claim to be able simply to combine competitive markets with socialist ownership; viz., Oskar Lange, On the Economic Theory of Socialism (1956). Needless to say, the nature and role of capitalist market relations are not at issue here.
mostly in Korean and might not cross the desks of most S&S readers. This essay therefore presents the core idea, in words alone.

Consider a system of production facilities (“factories”) and retail distribution centers (“stores”). These are dispersed over a given geographical territory; their locations and capacities are, for the present, fixed and unalterable. (A longer-term analysis might address the question of the optimal siting of production and consumption facilities.) The problem: to figure out the best — lowest-cost — pattern of shipment of goods from the factories to the stores.

To keep things manageable and focus in tightly on a single problem, we make a series of simplifying assumptions: There is only one product, of uniform quality; the stores therefore do not care which of the factories supplies them. The prime cost of production is given, uniform, and constant. There is only one method of transport — in the classical formulations, this was by rail — and the cost per unit-mile of transport is also given, uniform and constant. Minimizing total cost therefore amounts to minimizing the total number of unit-miles of goods shipped. Finally, there is no overall surplus or shortage: the total combined output of the factories is equal to the total combined demands of the stores.

Now it will be evident that there are many ways in which the (fixed) orders from the stores could be divided up among the factories. If the factories happen to be well separated from each other geographically, and the stores happen to be clustered around each factory, the problem is a no-brainer: the lowest-transport-cost method is to have each factory supply the stores in its immediate vicinity. (Never underestimate the power of common sense.) Still, a factory might have a surplus or shortage in relation to its local stores, in which case some longer-distance transport would be unavoidable. The fact that different transport patterns have different total costs associated with them can be seen via this simple idea: suppose the planners had things completely backwards, and cross-shipped vast amounts of the good from east to west, and simultaneously from west to east. This is ridiculous, of course, but it shows that different paths have different total costs attached, and raises the key question: what precise path minimizes the total unit-miles of transport? Remember that, in reality, the geographic positioning of the stores, in relation to the factories, may not follow the simple clustering pattern, making things all the more non-obvious.

3 The article develops some features of the MDIC model, and a more general “model of the models” in the envisioning-socialism discussion. Interested readers may contact me for a link to a PDF version.

4 The old joke applies. An economist, marooned with others on a desert island, is asked to help figure out how to open cans of food. The response: “Assume a can-opener.” This jibe (apparently) applies to Marxist economists as well as to the generic variety.
We may assume (another assumption!) that the poor, beleaguered planners in an early socialist economy do not — yet! — have the scientific, computational and personnel resources to even address this problem, let alone solve it. We might want to remember, also, that this is just one of vast numbers of similar problems regarding the mix of outputs, the input–output grid, the choice of techniques, pricing, incentives, etc., that need to be solved. We are face-to-face with the “millions of equations” critique of socialist planning.

An obvious response at this stage would be for the planners to give it up, for the present. This is actually quite smart; a clear case of “choosing one’s battles.” So, they may try a decentralized solution. The central authority calls all of the store managers and tells them: “You are cleared to get on the phone with factories (here is the list of their phone numbers) and make your own arrangements. The total cost charged to you will be the prime production cost plus the transport cost of the goods shipped, so you will clearly want to minimize that.” This is a test of the “invisible hand” thesis: the claim that the outcome of self-interested, independent actions of economic agents will be socially (globally) optimal.

And so they proceed. The manager of store 1 gets to her office, bright and early Monday morning, finds the factory on the list that is closest — we’ll call it factory A — makes the phone call, and secures a deal. The manager of store 2 does the same, except that he is a bit delayed that day, arriving only at 10:00 a.m. His store is also closest to factory A, so he calls there, but he is told: “We already have an order from a different store, and our total capacity makes it possible for us to supply only 70% of your order.” So store 2 fills that 70% with factory A, and is forced to call factory B (the next closest) for the remaining 30%. Now store 3, whose manager was out sick and only available on Tuesday, calls factory B (its closest), and finds that, given orders previously placed, factory B can only supply (we’ll say) 80% of its need; it gets the remaining 20% from factory C. And so on.

Remember that the total supply is equal to the total demand. Each store will get its needs met, from somewhere. But the actual pattern of shipment, and therefore the total transport cost, will depend on the order of contracting, and that order is random and arbitrary. If there are \( n \) stores, the number of different possible orders of contracting will be, in fact, \( n! \) or “\( n \) factorial” (remember your high-school algebra?); so four stores will involve \( 4 \times 3 \times 2 \times 1 = 24 \) different possible contracting orders. In principle, therefore (there may be some duplications), there will be 24 different total costs of transport, and a probability of \( 1/24 \) of accidentally hitting upon the lowest one!

This is the central point of the exercise. It applies not only to transport, but to any situation where limited resources must be shared among different enterprises (for example, a case in which choice of technique is constrained not only by abstract considerations of efficiency, but also by availability of
certain sets of machinery and equipment, given the demands already registered by other enterprises or sectors). The conclusion is inescapable: only by accident will decentralized, atomistic decision-making result in an optimal outcome, whereas that optimal outcome is in principle achievable through coordinated central planning — assuming (that word again!) the existence of planning techniques, computational capacity and human resources adequate to the task. (Needless to say, this last assumption is huge.)

It is possible that the lowest-cost solution to the transport problem will be different from any of the 24 possibilities that would result from spontaneous contracting. This can only be discovered by means of linear programming techniques. Even if one of the 24 spontaneous outcomes is indeed the one that is best from a social standpoint, however, it is still likely that a given store will look at the path it is assigned by the central planners and say: "We could have done better for ourselves." That is in fact not true: minimizing overall transport cost means that that "dividend" can be shared by all. But it will come home to them only if their income formation is made independent of the particular transport costs incurred by them. This is a huge challenge for the theory of socialist price determination.

Everything needs to be kept in perspective, of course. How bad would the decentralized contracting solution be? Playing around with models suggests that, as the number of stores in the story grows, the chance of accidentally hitting upon the lowest-cost ordering obviously declines sharply; however, the distance between the lowest- and highest-cost outcomes also diminishes. In a long period in which central and optimal planning techniques can only be applied in highly selective and partial fashion, the rough-and-ready outcomes resulting from spontaneous contracting, tempered perhaps with a bit of judicious intervention and common sense, need not be disastrous. Still, even a cost difference of a few percentage points, incurred at high volumes and over long periods, can be considerable.

To be sure, the fullest advantages of central planning — not as the sole method of coordination but within a system that allows democratic planning at multiple levels to flourish — are, in fact, not measurable by cost saving, or by enhancement of measures of social efficiency. The deepest and most enduring advantage bestowed, in socialist conditions, by a central component within planning is provision of an evolving social project that represents the historic

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5 Linear programming is one of several major advances in quantitative economics and operations research that originated in the Soviet Union in the 20th century; input–output economics and the field of incentive design are two others. In all cases, for a number of reasons — but including crucially the deformation of the Soviet scientific and political climate due to Stalin-era authoritarianism and hyper-extension of political control — the work continued and flourished in Western capitalist countries. In this way, the field of economics as such came to owe much more to the Soviet experience than is generally realized.
reversal of the capitalist subsumption of labor: the de-alienating re-uniting of the working community with the means of production and reproduction that is the most profound goal of the socialist/communist movement.

Along the way, however, it is good to know that a multilevel democratic planning system, including but not limited to central planning, can manage resources — *our* resources — more efficiently than any “invisible hand” of spontaneous, uncoordinated self-interest.

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**IN THIS ISSUE**

We begin this time with another of Alan Wald’s remarkable “resurrections” — of a little-known but prolific mid-20th-century Communist poet, Aaron Kramer. (Wald’s *American Night* and the trilogy completed by it were the focus of a Symposium in S&S, July 2014.) Again we learn of the work (and life and times and struggles) of a creative writer whose contribution to fleshing out this country’s sense of self is missed — in fact, almost inaccessible — in mainstream literary circles, owing to that writer’s uncompromising revolutionary vision; and yet full of pain and contradiction and subtlety that defy easy categorization in political terms. Kramer of course wrestled with his “murdered dreams”; his never-relinquished spirit of fightback still comes through: “Burn down, you rotten citadels / where death sings and the raven hatches! / We’ll make a sunrise of your walls, / An April of your ashes!”

In “The Other Good Fight: Hollywood Talent and the Working-Class Movement of the 1930s,” historian Michael Dennis revisits the Hollywood left, painting a picture of profound interaction of creative contributions — screenwriting, directing, acting — with intense involvement in broader political movements. Hollywood activists were able to lend their celebrity to working-class causes and international campaigns, but they were also able to do more than that. Dennis argues that, at best, they embodied the union of intellectual and creative production, on the one hand, and the growth of working-class consciousness and organization, on the other.

Following upon the seminal work of Maxime Rodinson (*Islam and Capitalism*), Mathieu Rousselin, in his study “In the Name of Allah and of the Market: The Capitalist Leanings of Tunisian Islamists,” counters the widespread belief that Islam is incompatible with capitalism, a barrier, early and late, to capitalist development in Islamic countries. To the contrary, the case of Tunisia reveals how Islamic ideology has been well-suited for adaptation to the dictates of neoliberalism and the fetish of the “free market.” Rousselin’s
study provides another instance of what is emerging as a shared reality, from North Africa to Southern Europe to Central America, of control by international financial elites in cooperation with local governments to subordinate and discipline working people — in the present case using a historically entrenched religious ideology for this purpose.

Economist George Liodakis (“An Exploration of Scarcity in Historical Perspective”) draws upon recent work by Marxist and neo-Marxist writers to build a case against the commonplace naturalistic view of scarcity as an eternal, inherent and ineradicable “fact” of human existence. Capitalist social relations promote scarcity as a vital necessity for social control and reproduction of class power. Placing the issue of scarcity-vs.-abundance in a solid context of analysis of class relations and modes of production, Liodakis argues, we are able to better confront the ecological implications of capitalist accumulation, as well as address the concerns of those who see ecological issues as transcending social systems. Liodakis makes the unfashionable claim that communist abundance is possible, but that it “requires both revolutionary confrontation with capitalism and an ontological break from the material premises and categories of commodity production.”

Finally, we present an intriguing Communication from our Moscow correspondents, Lyudmila Bulavka and Aleksandr Buzgalin, concerning the Russian oil oligarch Mikhail Khodorkovsky. Khodorkovsky was one of the biggest kleptocrats spawned by the demise of the USSR. He was convicted in 2005 of fraud and other crimes, and later released, in the process becoming something of an icon, even a hero, in the eyes of Russian intellectuals. Bulavka and Buzgalin examine this phenomenon, advancing some intriguing claims: a divide between Westernizers and nationalists, for example, which cuts across the left–right political spectrum. Although our authors do not draw this comparison, one thinks of the current Donald Trump phenomenon in the U. S. presidential election circus (at least, its Republican side) in relation to Khodorkovsky — although the vast cultural differences do seem to overwhelm the comparison. Truly, we live in interesting times.

D. L.