

# Multilevel Democratic Iterative Coordination (MDIC): A Path for Socialism beyond the Market/Central Planning Dilemma

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**Abstract:** Interest in socialism is growing throughout the world. But “socialism” too often simply means belief in equality, democracy, and solidarity with working and oppressed people. That vision remains crucial; but we also need to re-develop the theory of a socialist *system*—not just a middle path, a “mixed economy” between the excesses of market-driven behavior (“capitalism”) and the inadequacies of central planning (“socialism”). A re-envisioned socialism can draw upon both historical experience and modern technology, to become a new and distinctive way of life, one that truly meets the awesome challenges of human potential.

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In Anglophone Marxism over recent decades a discussion has emerged among proponents of different models of a post-capitalist economy. While these scholars have much in common, among themselves and also with the socialist and democratic movements more broadly, we need to identify the various models precisely, in order to sort out and understand the crucial differences among

them. To that end, I have given my own position a name, and an acronym: Multilevel Democratic Iterative Coordination (MDIC). In what follows, and without attempting anything like a comprehensive presentation, I will outline the fundamental features of the MDIC model (Laibman 2015, 2022).

While I certainly do not think that any one model, or any one individual's contribution, can ever capture all of the needed perspectives on this huge and evolving subject, I do believe that MDIC rests quite powerfully on the historical experiences of socialist construction over the past century; also that in addition to containing its own distinctive features, it can serve as a "model of the models"—a vehicle for sorting and classifying the key contributions of other approaches that have appeared in the "envisioning socialism" discussion.<sup>1</sup>

## 1. Defining the Components: M, D, I, and C

### 1.1. "Coordination"

Why this term, instead of "planning," the word that usually comes to mind as the antithesis of the market? The question classically raised by libertarian advocates of "free markets" and "competitive equilibrium" is: How would socialism put the jigsaw together? Without markets, how would you coordinate the vast ends-means structure (Hayek) of human activity—determine *what* goods will be produced, *how* and by *whom*, and how the results will be distributed? This is the problem of *coordination*—solving (if possible!) the millions of equations of the economy. My hope is to save the word "planning" for the more dynamic activity of envisioning a future path of development, among the many possibilities, and moving along the road toward that vision—shaping the human condition, the built environment, the quality and eco-sustainability of life. So, instead of "planning" I use "coordination" for the more basic problem of organizing production and distribution in the present.

### 1.2. "Democratic"

This is so central to our project that it is almost insulting to pass over it with a single brief mention. But that is what I will do! Suffice it to say that this is *not* the usual inclusion of an appealing word to attract admiration and support (like a capitalist advertiser's announcement of a "revolutionary" new toothpaste). I insist on a basic Marxist commitment: Democracy is not only a desirable condition; it is not just window-dressing. The democratic, widely participatory involvement of society's members in its core activities is *objectively essential*, if that society's productive forces and capacities are to grow beyond a certain point and contribute to unfolding the human possibilities inherent in them.

### 1.3. “Multilevel”

“Levels” refers to the organization of policy and activity, from the most central (e.g., a Central Planning Board) to the most local and devolved: an enterprise, workers council, team (or brigade), and even, in certain contexts, the individual. Against all manner of affirmations of “self-management” (What is the “self?”), “local control,” etc., MDIC insists that genuine democracy—working-class power—cannot be achieved by privileging any single level of what is an inherently multilevel system. The local is not “better” than the central. We will want to think about the best way to divide up responsibility among all levels, without any presumption, for example, that “lower” is in principle superior to “higher.”<sup>2</sup> Democracy and critical understanding are crucial to the work of every level.

### 1.4. “Iterative”

This goes directly to the heart of the contradiction between the adjective and the noun in the term *democratic planning*. *Planning* anything has to mean making a set of consistent decisions about that thing. But *democracy* means lots of people get to participate. How can I *plan* a painting—the house will be yellow and the sky blue—if someone else can exercise their democratic right to plan the house to be purple and the sky to be red?

Let’s acknowledge right away that in our multiply constrained world that abides by the laws of thermodynamics, no one can have everything they want. Diverse preferences will have to be reconciled with what is possible, by a process of interaction leading to compromise. While the house in the painting may not turn out to be the color I would have chosen, I can feel confident that I was able to participate in the deliberations, and on the same terms as all other participants. How can this reconciliation be achieved?

*Iteration* means repeated negotiations among levels of the planning process, in which actions taken at one level affect those taken at the others, in a way that leads to *convergence*: progressive movement toward a consistent whole. Thus, enterprises submit plans for the immediately forthcoming period to the center, which then combines all of these plans and reveals inconsistencies among them. (The classic case is of course a mismatch between the quantity supplied and the quantity demanded of a particular good.) The center then makes adjustments, both to move toward consistency and to implement wider objectives that are determined through a democratic process but that cannot be addressed at the enterprise level. In the next stage of the iterations, the modified plan is disaggregated and sent back to the enterprises, which in turn make needed modifications. This process (up-down-up-down, or, if one prefers, in-out-in-out) continues until convergence (or something close enough to it) is attained. Adjustment in each iteration follows rules that are designed to promote convergence; a consistent activity set should emerge from a reasoned process (including advanced mathematical methods), and not from anything that might look like a trial-and-error procedure.

Like most of the models in the current discussion (see the “model of the models” in Laibman 2022; and Note 3), MDIC does not propose pre-planning of *individual consumption* (“Next February 20, my family will be eating spaghetti and meatballs for dinner, with green beans on the side and butter pecan ice cream for dessert”). Consumer goods are allocated to individual consumers in *places* called “markets,” relying on the statistical law of large numbers for the regularity needed for estimation and planning. Market *places* are of course not *markets*, in the sense of value-driven determinations of social outcomes. Relations among money prices, money incomes, and living standards, we assume, have long transcended the elemental qualities of spontaneous social forces and are governed by principled political decisions, both in reality and in the understanding of individuals, families and collectives of people who are affected by them.

In the early historical stages of socialist planning, the phases of the iterative cycle were clearly separated, and marked out according to a calendar. The calendar set deadlines for each stage of the work, including convergence, at which point the plan would acquire force of law. With present-day digital capability, we can envision a much more flexible version, in which the phases of adjustment can be more simultaneous and aligned to the specific conditions of particular industries.

The *iterative convergence* projected in the MDIC model is a method for solving the “economic problem” (what, how, who, for whom) that is different from *either* the market (spontaneous independent actions by separate actors) *or* a central plan. The local actor (enterprise, or workers council) is clearly not autonomous; it can’t do whatever it wants. (But then the workers at the enterprise are not “the working class as a whole” either—the social constituency whose “power” is the object of socialist construction—and certainly not the “owners” of the productive resources allocated to the enterprise.) And the center—the *bête noire* of legions of free-market and socialist critics—is likewise constrained, by an active ensemble of democratic and critical voices, as well as by legislation and public oversight.

## 2. Two Dimensions of a Socialist Economic System

The socialist economy can be conceived in terms of two dimensions of choice: a) organization; and b) regulation. The *mode of organization* ranges along a spectrum between two poles. The poles (the extremes that define the range of possibility) in this case are complete centralization, at one end; and complete decentralization or dispersion, at the other. We can imagine an economy entirely run by detailed central planning; this pole is in fact the caricature of planning projected in the binary vision of orthodox Comparative Economic Systems texts, whose opposite is the completely decentralized competitive market. But the decentral pole of the organization

dimension can also be thought of not as a market economy but as a society of disconnected and self-sufficient local cooperatives, or communes.

The *mode of regulation* also runs between two extreme poles: a) quantitative; and b) qualitative. Quantitative regulation relies on indicators such as prices, input coefficients and profit rates to evaluate alternatives, provide incentives, and guide decisions. Qualitative regulation, by contrast, insists on the irreducible importance of social and political interaction, negotiation and consensus-building, things that cannot be captured in any system of quantitative signals.

It is important to avoid confusing the two dimensions. Conventional Western habits of thought, for example, might lead one to associate quantitative regulation (“prices”) with decentral organization only (“markets”). This, however, ignores the “cyber-communist” possibility, in which modern IT allows for extensive use of digital technology in central plan formation—solving the “millions of equations” directly. The case of small-scale self-sufficient, non-interacting communes, in turn, combines the decentral organization pole with qualitative regulation, again breaking any presumed quantitative/decentral link. In fact, the two dimensions (organization; regulation) can be plotted as the vertical and horizontal sides of a square, whose corners and edges represent the entire range of extreme possibilities, and whose interior is the space of all of the combined ones. (See Laibman 2022, for a complete presentation of the “model of the models,” and a summary diagram of the two dimensions.)

This immediately suggests that the goal of a comprehensive mature socialism will turn out to be an articulated combination of the two dimensions, synthesizing the principles that separate the two sets of poles. Thus, we would look for a way to integrate strong and well-grounded central planning with the greatest possible involvement in planning at the decentral level. This is afforded precisely by the iterative system of interactions among the levels of the planning process, outlined above. Similarly, we will want to avoid rigid separation of quantitative from qualitative regulation, and capture ways in which each pole of this dimension can complement and support the other pole, rather than treating them in the all-too-easy “either-or” manner.

From this perspective, then, many of the models put forward in the envisioning socialism discussion gravitate toward the outside edge of the square of possibilities: from cyber-communism (central/quantitative) to market socialism (decentral/quantitative) to horizontalism (decentral/midrange) to negotiated coordination (midrange/qualitative),<sup>3</sup> to positions that broadly reflect the early 20th-century history of the planned economies (central/midrange). Clearly, MDIC will appear at the center of the box, calling for an integrated synthesis of the two dimensions of organization; the other models then take on the character of one-sided reductions of this synthesis, in which one or both poles of the two organization dimensions drop out of view.

It is crucial to note that in this projection of mature socialism (MDIC), the poles and dimensions are *integrated*; they are not simply coexisting but non-interacting elements of a diverse social formation. One might think, for example, that the central region of the box represents any economy with a large state sector, whose state-owned enterprises are under political control and are subject to qualitative/political decision-making, surrounded by a sector of small, private price-driven enterprises. The world, of course, is filled with exactly this sort of mixed economy, in which capitalist and socialist priorities and institutions live side by side in varying proportions. The MDIC model is not about empirical delineation of coexisting central/decentral and quant/qual elements. Any actual historical economy will consist of a large variety of structures and institutions that can be described in terms of our two dimensions. MDIC, however, is concerned with a *socialist core economy* in which the two sets of poles are *systematically* combined, in ways that make the functioning of each pole dependent on and intertwined with the other.

### 3. Aspects of an Ideal MDIC Economy

#### 3.1. Central Planning

The question arises: Why do we need a central level at all? I've already alluded to the overriding need for upper-level systemic intervention when matters of ecological survival, overall environmental regulation, and implementation of long-term social objectives are concerned.<sup>4</sup> But we will consider two additional elements that call for central control: prices; and some degree of intervention in determination of actual quantities (product assortments and delivery paths).

##### 3.1.1. Prices

The starting point here is the abstract classical model of price formation, sometimes called the Sraffa model (Sraffa 1960; Pasinetti 1977). Prices are determined by a system of multi-industry equations containing information about technology and a distribution variable—in the capitalist context, a level of the wage rate; in the socialist context, a similar variable signaling the division between centralized and local (including personal) distribution of the net product. According to now-well-known mathematical properties (see Bródy 1970, Appendix I, 171–173), this system of prices exists under reasonable assumptions, is unique, and is determined simultaneously with the rate of profit, which (again in the socialist context) is a measure of the social efficiency of production by an enterprise, or by an industry, or by the economy as a whole.

The benchmark prices for our abstract MDIC socialist economy should be given a name that differentiates them from the standard long-period prices that

form in a similarly abstract capitalist economy (Marx's "prices of production," or the modern Marx–Sraffa prices).<sup>5</sup> I have proposed to call the MDIC prices *Social Reproduction Prices* (SRPs) (see Laibman 1978, 1992, 2015).

The general profit rate,  $r$ , is formed not by spontaneous competition among firms (as in the capitalist case), but by the need of a mature socialist economy for a sophisticated and uniform measure of the social effectiveness of production. Without that measure, there would be no way for enterprises and individuals (and planners) to compare outcomes across different products and spheres of activity. Individual returns to activity will of course differ for all sorts of reasons, but the uniform  $r$  provides a point of comparison and evaluation. Socialist enterprises are collectives of workers, with an associated set of productive resources owned by the entire society but delegated to a particular collective for its use. They are assigned to a specific function and field of production, and do not "chase" profit by shifting from one line of production to another; so the common  $r$  that emerges, with its associated prices, is not a result of competition in that sense; it is the outcome of systematic, intentional calculation. Since this calculation is economy-wide, it can only be done by the center.

There is no antagonistic class division, placing agents on one or another side of a hostile confrontation over the level of the wage. A workers collective, or council, is in principle interested in the entire net product of its efforts; in conventional economic notation, this is  $Y$ , whose division into  $W$  (wages) plus  $P$  (profit) is (as mentioned earlier) only a matter of the way in which  $Y$  is separated into a portion that goes directly to workers for their personal use, and a portion that they assign for collective consumption, enterprise-level investment, and central investment. The appropriate formula for  $r$ , then, is  $r = Y/K$ , not the capitalist  $r = P/K$ , since the entire  $Y (= W + P)$  is in principle realized by the working collective for its use. (Workers' interest in the  $W$  portion is historically obvious, and easy to grasp; the  $P$  portion is a complex matter of the evolution and deepening of socialist democracy, and workers' interest in it is a measure of the degree of maturation of socialist consciousness.)

The measure of the stock of resources ( $K$ ), committed to production in a particular industry or enterprise, also differs from the "capital stock" owned by a private firm in the capitalist context; it includes stocks of educational and social-support resources that are external to the enterprise (Laibman 1978, 1992; Bródy 1970). To this we should add other ways of thinking about social cost, including what could be called the *ecological imperative*, that must appear in the prices used for evaluation and decision-making in the socialist context.

For all of these reasons, the SRPs are unique to the mature socialist economy; they are not available to (or attainable by) *any* spontaneous competitive system, whether capitalist or "market socialist."

### 3.1.2. *Macro-optimization*

The first thing to point out here is that the “millions of equations,” which have long been the Damocles Sword dangled over the heads of any would-be central planners, *can*, with modern technology, be formulated—and solved! If in the mid-20th century the digital techniques needed to actually compute a consistent system of material balances of the Soviet type did not exist, they do now (see Cockshott and Cottrell 1993, 2002). This is the entirely valid contribution to the MDIC synthesis made by (what I have called) the “cyber-communist” position.

But it still remains to ask: Why can’t this computation be done entirely at the local level? If we let enterprises make decisions in their best interests, independently of one another, will anything be lost?

While many decisions can and should be made decentrally—as the MDIC synthesis strongly suggests—central optimal calculation still plays an important role. Study of a classical problem in linear programming—the network flow minimization problem, or transportation problem; see Laibman (2015, 311–317), for sources and a detailed example—shows that, in situations where one enterprise’s actions in contracting with suppliers or outlets become part of the constraints facing another enterprise, the *accidental order of contracting* will affect the outcome (the case of transport cost minimization is just one particular instance), so that less-than-optimal results may well occur. If everything is left to choices made by independent non-communicating micro-units, inefficiencies will occur, due simply to randomness in the order in which contacts and contracts are made.

Is the cost incurred as a result of this inefficiency greater or less than the cost of administering a huge overlying system of central plan formation? That is the sort of question that can only be answered in practical terms, as the actual contours of an MDIC central–decentral planning system are debated and evolved in specific historical contexts. MDIC is not a blueprint; it is a perspective requiring elaboration, correction, and creative development.

## 3.2. Local (Decentral) Collectives

### 3.2.1. *Incentives for Decentral Planning*

The key here harkens back to the Soviet-era reforms of the 1960s and beyond. The emergence of multilevel planning raised the question: How can the incomes of enterprise personnel—both leadership and rank-and-file, in a historical period in which that distinction still applies—be made consistent with their activity, so that, on both an individual and a collective basis, good action results in greater reward, in a way that conforms to the principle “to each according to work,” and results in income differentials that incentivize productivity and personal



development but do not lead to demoralizing and socially destructive divergence in lifestyles and statuses?

The first step in addressing this complex of problems is to devise an approach to enterprise income that encourages their personnel to create plans that are both a) *ambitious*; and b) *realistic*. In short, an enterprise will reap the greatest income reward when it seeks out the most powerful plan it can project—the most rapid and successful path of innovation, product development and human development; the greatest growth of output—subject to the condition that it actually *meets* the stated targets.<sup>6</sup> Unlike the “The more, the better” slogan of early Soviet planning, our system must incentivize enterprises to be accurate. Exceeding planned levels of output, for example, is just as harmful as underfulfilling the plan, as it puts strain on storage facilities, causes waste, raises uncertainty for related enterprises, and distorts the information sent to the center.

The actual form of the reward function relating the enterprise’s reward to the planned and actual levels of enterprise performance is an active area of research; in fact, it has given rise to the modern field of incentive design in microeconomics (see D. Campbell 1995). Highly sophisticated proposals for incentive design have been devised, but these need to be weighed against the requirement that the working people who are supposed to respond to the proposed incentives must actually understand the formulas and be able to interpret them.

To some socialists, the whole matter of incentives and income differentiation sounds sordid and manipulative. I believe this concern is unwarranted. First, in a socialist environment of substantial (*not* total) equality, the process is anything but antagonistic. When workers understand and accept the socialist rationale behind incentives, they are in effect incentivizing themselves. The old debate about moral incentives “versus” material ones, as a matter of policy, is misconceived. Material incentives (rewards) *exist*; they are not something that can be used or not used, as desired. The question then is: How can they be brought into harmony with socially efficient actions, if those actions, including planning actions, are to be left to local collectives and to individuals? To build socialist consciousness, we want material incentives to work in harmony with moral ones; we don’t want the two types of incentives to be at cross purposes. The surest way to lay firm foundations for growth in socialist consciousness is to make sure the differentials that do exist are closely aligned with good, collective appraisals of the actual performances of actors, individual and collective.

### 3.2.2. *The Measure of Enterprise Performance*

This brings us to a central question for MDIC: What does mature socialism require as a measure of how well an enterprise is doing? How effective are its members in fulfilling the trust placed in them by society as a whole? The old measurement of

performance by quantity of output alone will obviously no longer suffice. What can take its place?

The early Soviet planners quickly realized that the (material and immaterial) social product consists of a large number of discrete goods, and that a price system is needed to create some scalar (single-number) measure of output. But also, that a measure of productivity or effectiveness had to relate this number to a base, a measure of the built-up stock of resources with which current labor creates the product. For want of a better word, we can call this stock “capital,” provided we understand that we are strictly removing from this concept all social-class and financial qualities that adhere to it in capitalist contexts.

The measure of enterprise performance will then begin with a *basic measure* based on  $r$ , the profit rate  $Y/K$ . This rate captures productivity in the narrow sense: efficient use of labor, raw materials and power sources (all of this maximizes  $Y$ ). But it also economizes on the use of stocks of machines and other physical capital (thus minimizing  $K$ ). It can also be defined to reflect the quality of an enterprise’s output, if  $Y$  is carefully defined to exclude any goods that pile up in unwanted, unloved inventories. Finally,  $r$  can be related to a comparison rate,  $r_0$ , which may in some uses be a measure of an average rate of return for similar enterprises, or a measure of past experience in this and related enterprises, or both.

All of this is suggestive, and in the spirit of scientific political economy I would not want to give any particular formulation the certitude of a finished product. Everything in the preliminary MDIC model is provisional, illustrative only, and sure to be corrected and transformed in actual practice.<sup>7</sup>

A key point about the measure of enterprise performance  $x$ , however, is that it contains a second component: a *social indicator measure*. This component aggregates, and reduces to a single quantitative element, a series of *qualitative* evaluations of the work of the enterprise. It thus seeks to incorporate the political process surrounding the enterprise and its interaction with a variety of stakeholders, some of whom are not workers in the enterprise—a vision that is prominent in the work of the authors of the “negotiated coordination” position in the mix of socialism-envisioning models (see Devine 1988, 2002; Adaman and Devine 2022).

To illustrate this component, we might envision areas in which stakeholders (which term will include the labor and management groupings within the enterprise, but also others who speak for a variety of interests, up to and including that of the society as a whole) regularly evaluate the enterprise’s work over the most recent period. In one example (Laibman 2015, 319–323), I illustrate this by proposing four such areas, with their associated stakeholder committees: ecology; industry; solidarity; and community.

The Ecology Committee examines the quality of the enterprise’s work in contributing to the social goal of sustainable activity. The Industry Committee studies

its relation to the industry in which it is situated, including (as one instance) its contribution to bringing lagging enterprises up to speed and disseminating advances in technology it has made.

The Solidarity Committee is concerned with the quality of the enterprise's work in tackling age-old divisions and historically derived oppressions within its workforce—racism, misogyny, ethnic antagonisms, and issues of affirmative action that still exist.<sup>8</sup> Finally, the Community Committee addresses the enterprise's relations with the surrounding community in its territorial and residential aspects; for example, working with local schools as a site for enrichment and practical experience of students.

The reports of these committees are assigned quantitative status, using an agreed-upon ranking scale. In proportions and to a degree determined by democratic decision, the reports are collected together to form a second component of the enterprise performance measure,  $x$ . The social indicator measure then captures a qualitative—political process that affects the incomes and development prospects of enterprises and their members, ensuring that the incentive design incorporates—again, in a way that no spontaneous market system could imagine—the range of social values that a socialist society should be promoting.

This, of course, is just a sketch, an indication of how qualitative evaluation and public input might work. But if any form of this proposal were implemented, it would have this remarkable outcome: The performance measure and resulting income of an enterprise—not to speak of the input–output coefficients and thus the actual price structure—will be significantly impacted by its relations with its stakeholders and their qualitative evaluations. This, then, is serious business: real lives are affected by it. A rhetorical question might be asked: Could a system of this sort be susceptible to abuse? To corrupt manipulation, vote trading, cynicism? The question answers itself of course, and there is no simple formulaic way to answer it. Would installation of a system of this sort necessarily depend on much prior development and preparation? Might it be necessary to introduce it by carefully designed stages? Again, and obviously, positive answers to all of these questions are suggested. The idea does, I believe, indicate both the difficulties and the potentials of building new, highly principled methods of evaluation, criticism, and control that can come to characterize production and planning and participation, in a mature and maturing socialist system of economic relations.

### 3.2.3. *The Collective Morale Function (CMF)*

The idea of transforming central planning into *comprehensive planning*—in which much of the detail is devolved to local units (enterprises, brigades) and an iterative process is established—originated in the postwar Soviet economy, and captured the imagination of economists worldwide, both supportive and skeptical (see

Dobb 1948; Zauberman 1976; Abouchar 1977). In the USSR, the “Statute on the Enterprise” (1968) reduced the number of centrally planned indicators typically created for an enterprise from several hundred to fewer than ten, and formally required enterprises to fill in their own detailed plans.<sup>9</sup> The idea of incentivizing ambitious-but-realistic behavior and truthful reporting—preventing concealment of resources, or any other unprincipled actions—took hold, and was elaborated in the aforementioned field of incentive design (D. Campbell 1995). The notion of a central–decentral system of planning, called by Zauberman (1976) the “decomposition principle,” clearly challenges Western economic-systems orthodoxy: It points the way toward progressive fulfillment of the old socialist dream of “the working class in power,” by bringing ever-larger numbers of working people into active participation in planning and carrying out social production, and suggests an answer to the libertarian charge against central planning: that it ignores the existence of particularized local knowledge. So an “Impossibility Theorem” took shape in the minds of the free-market orthodoxy: There is no way to devise an incentive system that can guarantee truth-telling and principled behavior on the part of self-interested micro-units.<sup>10</sup>

Imagine an enterprise consisting of mindless and cynical rank-and-file workers who perform routine tasks laid down for them in instructions from egoistic managers. These managers can “game” the Central Planning Board, by *misreporting* their true production possibilities—for example, by concealing reserves of materials, or labor.<sup>11</sup> They then prepare a “plan” that would be totally unattainable, *unless* the hidden reserves were magically brought into play. But they are brought into play. Then the inflated reward is pocketed by the managerial elite. The workers, by assumption, know nothing of all this, since they do their work, in the same routine fashion, whether or not reserves have been concealed, and whether or not the enterprise is actually functioning at its true potential. *Voilà!* The Impossibility Theorem.

The CMF answer to this begins with an assertion: Under modern conditions of socially and technologically advanced production—in which workers can *not* be mindless; discernment, cooperation and rational understanding of both production and plan are essential; and *morale* is therefore an essential ingredient—the self-interested strategies of management that presumably undermine democratic planning would be fraught with difficulty, and if attempted would lead to political crisis. This answer therefore rests on an assumption: The social processes within production have advanced, along with the productive forces, to a point at which *morale matters*. Healthy functioning of the intricate social collective that is the enterprise cannot be achieved without involving its entire workforce in both conception and execution of the plan. Knowledge of the real possibilities of the enterprise is widely shared; perverse manipulation of the plan would undermine morale and result in

unfavorable outcomes, regardless of whether or not the associated rewards are widely distributed. The CMF thus becomes significant at a stage of development where the old adage holds: “If it is worth doing, it is worth doing well.”

We have the planned level of the enterprise’s activity,  $x_p$ , and the actual level,  $x_a$ . But we also have the true best outcome—call it  $z$ —which can only be discovered by the enterprise if its entire workforce is mobilized: formed into committees to attack the various constraints, address social and technical problems, and arrive at that ambitious-yet-realistic projection for the coming period ( $z$ ). This commitment becomes commonly held among the enterprise’s workers and staff. If anyone proposes to act strategically by intentionally setting  $x_p$  either above *or* below  $z$  to any significant degree, morale suffers and  $x_a$  will wind up *below*  $x_p$ . This, in a word, is the CMF.

The optimal (reward-maximizing) level of  $x_p$  can then be calculated, with the CMF as constraint. Interestingly, this level (call it  $x_p^*$ ) actually differs from  $z$ , but by a small, bounded amount. However, *if* the CMF is itself subject to evolution—the weight of the morale imperative increases as the complexity of production and levels of social and political education increase over time—deviations of  $x_p^*$  from  $z$  will progressively disappear.  $z$ , which embodies both the best results of the enterprise’s work and the best information made available to the center for optimal planning at that level, will prevail—dynamically (even if not statically).

The Impossibility Theorem is thus replaced by a *Possibility Theorem*, which does not rely on naive assumptions regarding the “goodness” or social-mindedness of individuals, but rather suggests inquiries into the real social and historical conditions within which limits to socialist democracy—which are real—can be progressively overcome. This is therefore not a view that treats mature socialism as an abstract ideal, one that could be implemented under any conditions, after the fashion of the “utopian socialist” projections famously traced by Engels. The CMF becomes significant only in advanced circumstances, and its advocates will have to address the counter-claim that such circumstances do not exist at present to a significant degree, or may not even be able to exist in the foreseeable future. MDIC is a work in progress, and its possibility and success are in no sense pre-ordained.

#### 4. Conclusion

The resilience of socialist values and of popular adherence to socialism as a general moral compass is one of the amazing features of contemporary politics, in the face of intense and organized opposition to those values. Socialism is a bit like the alien enemy in the classic film based on H. G. Wells’ *War of the Worlds*: The organized ideological apparatus of capitalism can drop an A-bomb on it; yet, when the smoke clears, it is still there. It has not, however, broken through to its deserved dominance over the thinking and action of subaltern working people throughout

the world, and has not in particular prevailed against the deep and dangerous strains of fascism that currently threaten human survival.

This may be partly because socialism has appeared mainly in its *ameliorative* form: it expresses values of equality, participation, community, social stability, and security, and calls upon us to implement these values because of our better nature. The idea of a socialist *system* of human organization is much less well developed. Because socialist values are universal in character, they are associated with state (government) activity. National states then become the ultimate expression of whatever it is that binds people together, despite the facts that state also instill national rivalry and war, and that elements of a *world* state are still quite fragmentary and primitive. So socialism comes to be identified with the state, and the state sector is seen as the place where the communal range of values can be fostered and protected—despite the reality that *capitalist* states (and, it must be said, some fledgling socialist states that are still under capitalist historical and global influence) have acted against those values.

So, the thinking of large sectors of the world public comes to be dominated by a binary view: Socialism = public sector/community, while capitalism = private sector/ efficiency. The progressive agenda, in this perspective, must be to *forge a path between* the Scylla of excessive reliance on the state (“socialism”) and the Charybdis of the market (“capitalism”). Instead of systemic socialism as the road to a future beyond capitalism, we seek a *mixed economy*, one that finds “just the right balance” between the state, which ensures harmony, stability, and equality, on the one hand; and the private sector, which gives us “just the right amount” of competition, innovation, and productivity growth, on the other. This, it seems to me, is the essence of the Communist Party of China’s fashionable description of current Chinese society as “(market) socialism with Chinese characteristics” (for just one of many statements, see Yang 2009). It is also central to the Communist Party of Cuba’s search for “reform,” which consists of “just the right amount” of capitalism (the “market”), so that a dose of incentive and clearing away of bureaucratism and corruption can be accomplished, without going “too far” and incurring the evils of unemployment, inequality and crisis. The *socialist mixed economy* thus joins the Keynesian mixed economy, which comes at the eclectic center of this one-dimensional spectrum from the other (capitalist) side.

MDIC throws down the gauntlet! Opportunities for social–economic reorganization are *not* limited to positions along a single spectrum between state and market. State enterprises throughout the world have long existed, in both capitalist and pre-capitalist epochs, within the framework of exploitative, antagonistic modes of production. They have always been battlegrounds where divergent agendas have confronted one another, and in some circumstances have indeed emerged as sites of progressive movement. When socialist forces have assumed state power, in the

20th century and beyond, the revolutionary values at the base have taken a dominant form within state institutions; in this sense, those societies can be characterized as *early socialist*; socialism plays a qualitatively greater role in them than it does in capitalist societies whose states are nonetheless subject to powerful socialist influences from below, as in the New Deal period in the United States, or in a number of post–World War II countries in Western and Northern Europe.<sup>12</sup>

The early socialist states have not, however, in the view that I am proposing, yet made the transition to *mature* socialism. The MDIC model points the way, and indicates a path that is not *along* the common spectrum between “public” and “private” (see Xie, Li, and Li 2012). It is a third path, perpendicular to the state/private spectrum. It must, to be sure, begin with state (or public) property. But that is not enough. Roots of MDIC are found in the system-wide material balances that were attempted in the Soviet Union, and in iterative systems that were introduced experimentally in a number of Eastern European countries after World War II, and up to the present in China, Vietnam and Cuba. Technical and social advances within early socialist and pre-socialist states in Europe, Asia, and Latin America all contribute foundations for the transition to mature socialism and MDIC, as in fact do progressive forms within capitalist countries, as in postwar Western Europe and in the New Deal institutions of the United States.

I can only add, in conclusion, that all of the models whose debate forms the background for this summary of MDIC also contribute. In fact, market socialism, cyber-communism, horizontal participation and negotiated coordination positions, when integrated together, are present and synthesized in MDIC, so long as certain dogmas—uncompromising anti-centralism; blind trust in markets; over-reliance on digital IT; denial of the quantitative pole of the regulation dimension; insertion of a “third principle” (“social” ownership) between private and state ownership (this is a *non-sequitur*; both the private and state spheres are intrinsically *social*); and glorification of a golden age of Party dominance (for this see Keeran and Kenny 2004)—are transcended.

The details are, of course, unclear—and they should be! MDIC does not propose to confuse the democratic–scientific process of working toward a liberating systemic socialism with utopian advocacy of any particular policies or institutions. I do, however, believe that, once the general vision of systemic socialism takes hold of progressive, working-class movements around the world, the weight of that confluence of interests of the vast majority can shift the balance of class forces, decisively and monumentally. The world can once again move onto a path away from its antagonistic and class-divided past and present, and toward what it can truly become—and must become—if the human potential for ever-increasing capacity to shape the external environment is to be joined up with our potential for solidarity and the joyful pursuit of life.

## Notes

- References to particular authors, unfortunately mainly limited to those writing in English, will appear in context, below. No attempt will be made to provide a comprehensive bibliography of this rapidly growing world literature. I will note here that *Science & Society*, the US-based journal with which I have been associated for five decades, has published *four* special issues, on a ten-year cycle, devoted to this topic: in Spring (1992, 56), Spring (2002, 66), April (2012, 76), and April (2022, 86). The Spring 2002 issue was organized into lead presentations, debates, and responses among the participants. The April 2012 issue, called “Designing Socialism: Visions, Projections, Models,” was organized into five topics—“Why Socialism?,” “Feasibility and Coordination,” “Incentives and Consciousness,” “Stages and Productive Forces,” and “Social and Long-Term Planning”—on which the authors or teams of authors presented their distinctive views. The last, “(En)Visioning Socialism IV: Raising the Future in Our Imagination before Raising It in Reality,” was edited by Al Campbell and myself.
- “There is nothing sacred about the decentral site; local tyrants abound in history” (Laibman 2002, 121). Cf. the “subsidiarity principle,” proposed by Adaman and Devine (2022).
- The position I have called “horizontalism” is the “participatory economy” view elaborated in many works by Michael Albert and Robin Hahnel; see, e.g., Albert and Hahnel (1991, 2002); and Hahnel (2012, 2021). “Negotiated coordination” refers to the position developed over recent years by Devine (1988, 2002), and Adaman and Devine (2022, 2024). “Market socialism” has a long history, but it may be represented in the recent literature by Roemer (1994), and Schweickart (1996). For cyber-communism (modern digital central planning), Cockshott and Cottrell (1993); Cockshott and Zachariah (2020). In the spectrum of views on offer currently, I also note the position of Al Campbell, whose “protagonistic planned socialism” vision has many characteristics in common with MDIC (Campbell 2022).
- I’ll be optimistic, and assume a level of social evolution at which military preoccupations are no longer relevant. Also, the MDIC model, like all of its counterparts, presumes some sort of “national” economy—the level at which the “center” operates. It does not address the complex matter of *world-level* planning or political organization.
- Here I circumvent a huge debate about whether and to what extent the Sraffa prices can reasonably be considered as the proper form for Marxist analysis that incorporates mathematical and political-economy developments after Marx’s death. I believe they can. See, for contrary views, Freeman, Kliman, and Wells (2004). I can’t resist making a controversial assertion: The Sraffa prices constitute the *only* theoretically complete and logically acceptable conception of a price system within the entire *corpus* of economic theory, both Marxist and neoclassical/mainstream.
- Meeting the requests of some early readers, and breaking my promise to leave the technical versions of these ideas to other venues, here are two possible actual algebraic versions of a reward function. With  $R$  as the reward, and  $x_p$  and  $x_a$  as, respectively, the planned and actual levels of the measure of achievement, we could write  $R = ax_p - b(x_p - x_a)^2$ , or  $R = ax_p - b|x_p - x_a|$ . The first of these involves a bit of non-linearity, but has the advantage of continuity; it is the one used in the study of enterprise behavior in the presence of the Collective Morale Function (see Section 3.2.3). The second is consistently linear, but complicates the analysis of  $R$ -optimization.
- An actual formula for the measure of activity,  $x$ , along with numerical examples, is given in Laibman (2015). Interested readers may write to me at [dlaibman@scienceandsociety.com](mailto:dlaibman@scienceandsociety.com) for an electronic version of that paper, which may otherwise be hard to access.
- I am foreseeing that stakeholders representing people of color, and women, and perhaps others, might insist that an overall Solidarity Committee is too broadly conceived, and must be subdivided



into separate components. This is the sort of principled political struggle that we must welcome and prepare for.

9. Whether or not Soviet enterprises took this change to heart or not is clearly a matter for debate. In 1969 I interviewed a manager of a textile plant in Volgograd. When I asked him how the plant's work had changed since the advent of the reform, he was perceptibly discomfited, and changed the subject.
10. To my knowledge, a general Impossibility Theorem was never propounded. The closest approach is Hurwicz (1972); cf. Donald Campbell (1995, 294–297). The Collective Morale Function is my own attempt at an answer to the general idea that distortion and inefficiency are inevitable outcomes of plan decentralization; it is presented in detail in Laibman (2011, mathematical; 2020, expository).
11. It goes without saying that problems of concealing reserves, late-stage frantic drives to complete a plan on schedule (the *sturmchina*), and other self-interested distortions, were widely reported in the USSR over many years.
12. We may recall the old debates on the pre-1989 20th-century left, about whether or not “the Soviet Union is socialist.” The “to be” verb can be profoundly undialectical. So, the USSR either *was* or *was not* “socialist.” It now seems to me that this is a bit like asking, “Was 17th-century England capitalist”? The answer is: Yes, if money relations, class based on concentrated private property, and wage labor, are all present. No, since the industrial revolution and real subsumption of labor to capital (Marx 1967, ch. 16) had not yet occurred. It is (or should be), in both cases, about the existence of significant roots or germs—present, yet calling for further transformation.

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