Reply to Leland B. Yeager on "Mises and Hayek on Calculation and Knowledge"

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In this article on "Mises and Hayek on Calculation and Knowledge," Leland Yeager argues against the view recently propounded by Murray Rothbard, Jeffrey Herbener, and myself that calculation and knowledge constitute separate and distinct problems of economic organization and that Ludwig von Mises attributed the impossibility of socialism exclusively to its inability to solve the former problem. In rebuttal, Yeager alleges that calculation, as this term is used by Salerno, Rothbard, and Herbener (henceforward, SRH) refers narrowly to a trivial arithmetic operation and that it is, therefore, preposterous and a violation of a putative principle of hermeneutics, i.e., "a heuristic principle of textual interpretation," to identify, as SRH do, calculation in this sense as the crux of Mises's critique of socialist central planning.

Yeager seeks to buttress his hermeneutical case by arguing that if the knowledge problem is solved, i.e., if the central planners are miraculously endowed with knowledge of all previously discovered production functions currently used or potentially useful, in addition to exhaustive and minutely detailed information regarding the quantities, qualities, and locations of existing resources and the global set of consumer value scales (comprehensively defined to include leisure and time preferences as well as preferences for the various types of labor), then all that remains to be done to effect a rational or "Pareto optimal" allocation of resources is to address a relatively tractable problem in linear programming that can be

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solved using a supercomputer. Yeager thus claims to be logically confirmed in his conclusion that, in dismissing the knowledge problem from consideration, SRH are construing the calculation problem in a limited and trifling sense that "trivializes and caricatures" Mises's critique of socialism.

There is not much to say about Yeager's main allegation, except that it is wholly beside the point, because it rests on a gross misinterpretation of the meaning explicitly attached to the term "calculation problem" by SRH. It is true that as SRH use the term "economic calculation" it encompasses and culminates in arithmetic computations undertaken to identify the most valuable employments of scarce resources in an economy characterized by specialization and division of labor, e.g., the profit calculations of entrepreneurs operating in a market economy. However, it does not follow that, for SRH, *the* calculation problem as Mises conceived it refers narrowly to the mathematical techniques employed for manipulating the given quantitative data; it refers, instead, to the origination and meaningfulness of the data themselves. It is, in short, a problem of "appraisement" and not of "arithmetic."

As SRH have repeatedly emphasized, the Misesian demonstration of the logical impossibility of socialism is not predicated on the central planners' incapacity to perform tasks that can conceivably be carried out by individual human minds (e.g., discovery of factual and technical knowledge, mathematical computations, managerial monitoring, and prevention of labor shirking, etc.). Rather, it is concerned with the lack of a genuinely competitive and social market process in which each and every kind of scarce resource receives an objective and quantitative price appraisement in terms of a common denominator reflecting its relative importance in serving (anticipated) consumer preferences. This social appraisement process of the market transforms the substantially qualitative knowledge about economic conditions acquired individually and independently by competing entrepreneurs, including their estimates of the incommensurable subjective valuations of individual consumers for the whole array of final goods, into an integrated system of objective exchange ratios for the myriads of original and intermediate factors of production. It is the elements of this coordinated structure of monetary price appraisements for resources in conjunction with appraised future prices of consumer goods which serve as the data in the entrepreneurial profit computations that must underlie a rational allocation of resources.

That appraisement and not arithmetic constitutes the essence of the calculation problem is clearly indicated in numerous passages from the works of Salerno and Rothbard cited by Yeager.

Unfortunately, Yeager ignores these key passages. For example, in one of my articles (Salerno 1990a, pp. 54–56) quoted by Yeager, I identify the crucial bearing of entrepreneurial competition in resource markets on the problem of economic calculation:

> In this competitive process, each and every type of productive service is objectively appraised in monetary terms according to its ultimate contribution to the production of consumer goods. There thus comes into being the market's monetary price structure, a genuinely "social" phenomenon in which every unit of exchangeable goods and services is assigned a socially significant cardinal number and which has its roots in the minds of every single member of society yet must forever transcend the contribution of the individual human mind.
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> Since the social price structure is continually being destroyed and recreated at every moment of time by the competitive appraisement process operating in the face of ceaseless change of the economic data, there is always available to entrepreneurs the means of estimating the costs and revenues and calculating the profitability of any thinkable process of production.
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> Once private property in the nonhuman means of production is abolished, however, as it is under socialism, the appraisement process must grind to a halt. . . . In the absence of competitive bidding for productive resources by entrepreneurs, there is no possibility of assigning economic meaning to the amalgam of potential physical productivities embodied in each of the myriad of natural resources and capital goods in the hands of the socialist central planners. . . .
>
> A society without monetary calculation, that is, a socialist society, is therefore quite literally a society without an economy.

Later in the same work (Salerno 1990a, pp. 62–63), I portray the Misesian case against market socialism in similar terms:

> From the Misesian point of view . . . the shortcomings of the prices of market socialism do not stem from the fact that such prices are supposed to be treated as "parametric" by the managers. . . . The problem is precisely that such prices are *not* genuinely parametric from the point of view of all members of the social body. The prices which emerge on the free market are meaningful for economic calculation because and to the extent that they are determined by a social appraisement process, which, though it is the inevitable outcome of the mental operations of all consumers and producers, yet enters as an unalterable fact in the buying and selling plans of every individual actor.

It is obvious from the foregoing passages that I conceive appraisement as neither knowledge nor arithmetic, but as something new

under the sun, introduced into the world only when the institutional prerequisites of a market economy are fulfilled. The social process of appraising thus transcends the purely individual operations of knowing and computing at the same time that it complements them in creating the indispensable conditions for rational choosing by entrepreneurs and resource owners cooperating in the division of labor. In fact, in another work cited by Yeager, I specifically refer to Mises's distinction between "cardinal numbers and their arithmetic properties [which] are 'eternal and immutable categories of the human mind'" and "economic calculation [which] is 'only a category inherent in acting under special conditions'" (Salerno 1990b, p. 45).

In explicating what I take to be Mises's view, then, I clearly do not contend that the advent of socialism suddenly and mysteriously renders men unable to perform arithmetic operations. Rather, it is and always has been my contention that socialism abolishes the *quantitative appraisement* of means without which man's computational skills and his knowledge of particular facts and general technical rules would be completely useless in guiding production within the framework of the social division of labor. As I conclude in the latter article "It is because socialism lacks the means to calculate, therefore, that Mises emphatically denies that men 'are free to adopt socialism without abandoning economy in the means of production'. . . . In fact Mises conceived *the* social advantage of the price system to be that it made practicable human society itself by providing the cardinal numbers for computing the costs and benefits of purposive action undertaken within the social division of labor" (Salerno 1990b, p. 48).

I also indicate that Mises's concept of "the intellectual division of labor" refers to the necessity of the existence of independent intellects and wills—of capitalist-entrepreneurs, laborers, landowners, and consumers—for the quantitative appraisement of the means of social action (Salerno 1990b, pp. 41–42). In contrast, Yeager construes Mises's concept as an embryonic version of Hayek's "division of knowledge." Thus, Yeager (p. 97) draws the wrong conclusion from his important insight that "intellectual labor involves knowledge, and division of labor means leaving at least some knowledge, and action on it, decentralized." A price system is not required because useful knowledge is dispersed, as Yeager infers from this insight; rather, knowledge must be decentralized (among competing entrepreneurial forecasters and appraisers) in order for a system of prices to come into being which meaningfully indicates the relative scarcities of useful resources. Or, to put it more starkly, dispersed knowledge is not a bane but a boon to the human race; without it, there would be no scope for the intellectual division of labor, and social cooperation

under division of labor would, consequently, prove impossible. Thus, a world exactly like our own but ruled by a perfectly beneficent and "empathic" overlord, who, in Star Trekian fashion, could, fully and instantaneously, mentally assimilate his subjects' subjective valuations and knowledge, would be unable to develop a sophisticated structure of capital and production for lack of a means of appraisement.

Rothbard, also, in his articles referred to by Yeager, is pellucidly clear that the calculation problem identified by Mises goes far beyond a piddling arithmetic problem. As well, it involves far more than the difficulty of acquiring qualitative information about previously prevailing market conditions. As Rothbard (1991, p. 66) writes:

> The problem is not knowledge . . . but calculability. [T]he *knowledge* conveyed by present—or immediate "past"—prices is consumer valuations, technologies, supplies, etc. of the immediate or recent past. But what acting man is interested in, in committing resources into production and sale, is *future* prices, and the present committing of resources is accomplished by the entrepreneur, whose function is to *appraise*—to anticipate—future prices, and to allocate resources accordingly. It is precisely this central and vital role of the *appraising entrepreneur*, driven by the quest for profits and the avoidance of losses, that cannot be fulfilled by the socialist planning board, for lack of a market in the means of production. Without such a market, there are no genuine money prices and therefore no means for the entrepreneur to calculate and appraise in cardinal monetary terms.

In a second article quoted from by Yeager, Rothbard (1992, p. 20) nicely epitomizes the SRH interpretation of economic calculation: "the prices provided by the market, especially the prices of means of production, are a *social* process, available to all participants, by which the entrepreneur is able to appraise and estimate future costs and prices. In the market economy, *qualitative* knowledge can be transmuted, by the free price system, into rational economic calculation of *quantitative* prices and costs, thus enabling entrepreneurial action on the market."

Given the weighty textual evidence I have adduced above to counter his claim that SRH construe the calculation problem as one of arithmetic, Yeager appears to be transgressing against his own hermeneutical principle of refraining from attributing preposterous and incoherent positions to one's opponents without having fully and sympathetically engaged their arguments. Nevertheless, I do not believe that it would be fair or accurate to ascribe Yeager's palpable

misreading of SRH's position to unrestrained eagerness to seize a polemical advantage or to shoddy scholarship. Rather, I believe that the source of Yeager's erroneous characterization of our position lies in his static view of the function of prices and economic calculation. This view is revealed in the logical argument he advances to deny any but the most trivial distinction between knowledge and calculation, an argument intended to bolster his textually unsupported claim that SRH equate calculation and arithmetic.

In the section on "Economic Calculation," which precedes and introduces his own rendering of "What Mises Meant," Yeager (pp. 92–95) delineates his view of the functions performed by prices. Proceeding in a Hayekian vein, Yeager characterizes market prices as a substitute for the perfect knowledge that is assumed by neoclassical theorists to be possessed by all market participants. However, as I have argued elsewhere (Salerno 1993, pp. 126–29), for prices to perform such a knowledge-disseminating function, it is necessary for the economy to already subsist in a quasi-static state or what I have dubbed "proximal equilibrium" (PE), wherein genuine uncertainty and the need for entrepreneurial appraisement are absent and current prices are an approximately correct guide to future prices. Indeed, this is the view taken by Hayek (1978, p. 82) himself, who writes that "the function of prices is precisely to communicate, as rapidly as possible, signals of changes of which the individual cannot know but to which his plans must be adjusted. This system works because on the whole current prices are fairly reliable indications of what future prices will probably be." Elsewhere, Hayek (1940, pp. 27–28) argues that "real conditions . . . do to some extent so approximate [towards a state of equilibrium], and . . . the functioning of the existing economic system will depend on the degree to which it approaches such a condition."

Yeager does not shrink from the PE implications of the Hayekian description of the function of prices. Indeed, he embraces them wholeheartedly, arguing that economic calculation employing knowledge-laden prices functions "ideally" to maintain the economic system in competitive long-run equilibrium characterized by a Pareto-optimal allocation of resources. Yeager's argument is encapsulated in the following four statements extracted from his section on "Economic Calculation" (Yeager, pp. 92–95):

> "*Ideally*, in a competitive economy, the price of each product measures not only how consumers appraise it at the margin but also what the total is of the prices of the additional resources necessary to supply an additional unit of it [i.e., $P_i=MC_i$]."

> "Each consumer *ideally* leaves no opportunity unexploited to increase his expected total satisfaction by diverting any dollar from one purchase to another [i.e., $MU_1/P_1=MU_2/P_2= \ldots =MU_n/P_n$, implying perfect arbitrage of individual commodity prices and the overall purchasing power of money]."

> "*Ideally*, [consumers'] bidding sees to it that no unit of a resource goes to satisfy a less intense effective demand to the denial of a more intense one [i.e., $P^F_j=MVP_j$]."

> "*Ideally*, the result of successful economic calculation . . . is a state of affairs in which no further rearrangement of patterns of production and resource use could achieve an increase of value to consumers from any particular good at the mere cost of a lesser sacrifice of value from some other good [i.e., $P_i=AC_i$]. (A fuller discussion would introduce the concept of Pareto optimality at this point.)"[1]

Yeager's repetition of the term "ideally" in this context, which I have emphasized, is apparently intended to connote that the outcome of the "real" economic process only approximates the "ideal" of Pareto optimality.[2] Yeager goes on to impute this static conception of the function of economic calculation to Mises, despite his recognition that "Mises did like to emphasize that changes of all sorts are continually occurring and that the prices to be taken into consideration are not merely 'current' prices (which are the data of very recent economic history) but also future prices, as they best can be understood by entrepreneurial conjecture" (Yeager, p. 96). After this

[1]The meaning of the symbols in my interpolations in this citation are as follows:

P = price of product
MC = marginal cost
MU = marginal utility
P^F = price of factor of production
MVP = marginal value product
AC = average cost
i = ith product where i = 1, . . ., n and n = total number of products
j = jth factor where j = 1, . . ., m and m = total number of factors

[2]For a fuller treatment of the function of the price system, Yeager refers the reader to a discussion in another one of his works. There, Yeager (1966, pp. 13–30) cites the usual static neoclassical reasons involving externalities and monopoly for the failure of the market to achieve the ideal allocation of resources, but he tends to downplay their practical significance. However, he does not even hint at the dynamic considerations that prevent actual, moment-to-moment market prices from ever coming close to fulfilling their PE role as "signals of opportunity cost," which are supposed to accurately guide market participants to a Pareto-optimal pattern of resource use.

grudging admission, however, Yeager (p. 97) proceeds to relegate such dynamic considerations, in the fashion of classical economics, to the status of "frictions" or "disturbing causes" that "immensely complicate" but do not alter the main task of economic calculation, which is to point the way to the ideal resource allocation of the static state.

We can now explain why Yeager refuses to distinguish between calculation and knowledge and why he misses the significance of the distinction drawn by SRH. With the economy always in PE and current prices therefore conveying to producers virtually complete knowledge about relevant economic conditions in the present and the future, the only function that remains for entrepreneurs is to robotically compute revenue and cost functions and allocate resources so as to equate MR and MC. Since the acquisition and use of knowledge is thus presented as the essence of economic calculation, should the central planners somehow or other get hold of the same knowledge in the absence of a price system, the entrepreneurial computation problem could be easily solved by the methods of linear programming, which would yield the identical (Pareto-optimal) allocation of resources. This is the implication of Hayek's statement that the price system "brings about the solution which (it is just conceptually possible) might have been arrived at by one single mind possessing all the information which is in fact dispersed among all the people involved in the process" (Hayek 1972, p. 86).

For Yeager, Hayek, and equilibrium theorists of all stripes, then, an appraisement process is not necessary because, in the words of general equilibrium (GE) theorist J. R. Hicks (quoted in Walsh and Gram 1980, pp. 241, 179),

> the price mechanism is something that is inherent. It did not have to be . . . brought in from outside. . . . It has been made apparent [by linear programming theorists], not only that a price system is inherent in the problem of maximizing production from given resources but also that something like a price system is inherent in any problem of maximizing production against restraints. The imputation of prices (or "scarcities") to the factors of production is nothing else but a measurement of the intensities of the restraints; such intensities are always implicit—the special property of a competitive [price] system is that it brings them out and makes them visible. . . . If we take the famous definition, given so many years ago by Lord Robbins—'the relationship between ends and scarce means that have alternative uses'—economics, in that sense, is well covered by linear theory.

This reasoning, of course, also underlies the position taken by neoclassically-trained market socialists such as Oskar Lange. In a posthumously published reflection on his contribution to the socialist calculation debate, Lange (1974, p. 137) wrote:

> The market process with its cumbersome *tatonnements* appears old-fashioned. Indeed, it may be considered as a computing device of the pre-electronic era.
>
> The market mechanism and trial and error procedure proposed in my [original] essay really played the role of a computing device for solving a system of simultaneous equations. The solution was found by a process of iteration which was assumed to be convergent. . . .
>
> The same process can be implemented by an electronic analogue machine which simulates the iteration process implied in the *tatonnements* of the market mechanism. Such an electronic analogue (servo-mechanism) simulates the working of the market. This statement, however, may be reversed: the market simulates the electronic analogue computer. In other words, the market may be considered as a computer *sui generis* which serves to solve a system of simultaneous equations.

Thus market-oriented PC theorists, such as Hayek and Yeager, and neoclassical/socialist GE theorists are brothers under the skin. The former, who according to Yeager include Mises, ultimately do not gainsay the claim of the latter that the price system is "in" the data and that the market performs essentially the same function as an equation-solving computer. All of Hayek's subtle argumentation in his classic triad of articles on knowledge (Hayek 1972a; Hayek 1972b; Hayek 1972c) amounts only to the denial that all the relevant data could ever be assembled in one place and, to use Yeager's term, "assimilated" by one mind preparatory to being fed into the computer.[3] Thus is Yeager (p. 99) led to conclude, in agreement with Hicks

[3]In his article on "Economics and Knowledge," Hayek (1972a, pp. 41–42 n. 6) sought, among other objectives, to "dynamize" the concept of equilibrium and give it empirical applicability by dissolving the link between equilibrium conceived as a coinciding of subjective expectations held by diverse individuals and the concept of the "stationary state" based on the constancy of the underlying objective data. It is now generally known that Hayek's article was intended in part as a critique of Mises, whose praxeological approach to economic theory included a (strictly subsidiary) role for the mental construct of a stationary state or "evenly rotating economy." This is of great doctrinal significance in light of the fact that Hicks's attempted dynamic recasting of GE theory in *Value and Capital*, which, Hicks (1968, p. vi) has revealed, was largely based on ideas "conceived at the London School of Economics during the years 1930–35," was prompted by precisely the same considerations. In fact, Hicks (1968, p. 117) specifically criticized "the method of the Austrians" for its "concentration on the case of a Stationary State." Moreover both Hicks (1968, pp. 119–21) and Hayek (1972a,

and Lange, that "if all relevant knowledge *could* be gathered and assimilated and all other preparations made and if the vast comprehensive calculation *could* be performed, then the immense list of results spewed from the computer would not only prescribe all input and output quantities in detail but also indicate shadow prices of all inputs and outputs."

It is because of his PE mindset, then, that Yeager is unable to perceive what is to SRH the very pith of Mises's calculation argument: first, that the market creates a social appraisement process which is *not* implicit in the informational parameters of the equation system and which depends crucially on an intellectual division of labor featuring the qualitative *understanding* of competing entrepreneurs; and, second, that this process is indispensable for converting the multidimensional knowledge of the economic data, regardless of who possesses this knowledge or where it is located, into a unitary structure of meaningful resource and product prices.

That Yeager's attempt to portray Mises as a PE theorist is untenable and that SRH's view of Mises as a dynamic appraisement theorist is indeed the correct one is compellingly evinced by Mises's definitive response in *Human Action* to the proposed mathematical solution to socialist calculation. Here Mises (1966, pp. 710–15) makes it crystal clear that the static prices mathematically imputed from perfect knowledge of the economic data would not lead to a dynamically efficient allocation of resources. The latter can only be achieved by the entrepreneurially appraised prices that are generated by the historical market process.

In arriving at this conclusion Mises first considers a situation in which the central planner is endowed with perfect knowledge of the existing economic data. Mises points out, however, that such data would include a stock of intermediate or capital goods, which, in a world of unrelenting change and uncertainty and of consequent entrepreneurial error, is necessarily maladapted to the primary data of wants, technology, and "original" resources, i.e., permanent and/or nonreproducible labor and land. Nonetheless, the existing inventories of nonpermanent, reproducible items that constitute this disequilibrium capital stock are cast as "parameters" in the system of simultaneous equations. Solving this system would therefore yield a static or Pareto-optimal allocation of resources and a related shadow

p. 41 n. 6) credit Alfred Marshall with pointing the way to the proper use of the equilibrium technique. Thus Hayekian PE and modern GE theory have common roots. For an illuminating discussion of the seminal influence of Hayek's work on Hicks's initial endeavors in GE theory, see E. Roy Weintraub (1991, pp. 30–31).

price system. But this static solution cannot possibly elucidate the series of steps that must be initiated today to progressively and efficiently transform the structure of capital goods through a sequence of further disequilibrium states towards its (presently unknown) equilibrium configuration.

Indeed, thirty years after Mises elaborated this argument, dissident GE theorists were just beginning to catch a glimpse of its significance. Thus, as Vivian Walsh and Harvey Gram (1980, pp. 182–83) frankly and perceptively noted at the time:

> The intended interpretation of neoclassical allocation theory depends fundamentally on the meaning attached to the parameters that enter into its structural relationships. . . . In a model of neoclassical allocation theory it is of no importance to distinguish inputs on the basis of the process by which they came into being. . . . Indeed, the *only* historical fact that has any bearing on the analysis is that a given quantity of resources has come into existence and is now available at a point in time to be used in ways that may or may not have been anticipated when these resources were produced. . . . Thus the categories land, labor, and "capital" are only descriptive; they have *no analytical significance* in static allocation models. . . . [N]eoclassical theory does not deny the reproducibility of the means of production. It simply takes no account of this reproducibility in its analysis of prices and quantities. . . . Thus, the flow of services of a diesel engine may enter as a factor input into certain technical processes, but it is immaterial to the theory's treatment of production that the engine itself is the result of a previous investment of resources as opposed to a free gift of nature dropping, as it were, from Heaven![4]

[4]Hicks's earlier theory of the "Traverse" was an abortive attempt by a GE theorist to come to terms with, or escape from, a similar insight. Wrote Hicks (1972, pp. 183–84): "[I]n the real world changes in technology are incessant; there is no time for an economy to get into equilibrium (if it was able to do so) with respect to January's technology, before that of February is upon it. It follows that at any actual moment, the existing capital cannot be that which is appropriate to the existing technology. . . . Every actual situation differs from an equilibrium situation by reason of the inappropriateness of its capital stock." Despite this recognition, however, Hicks apparently found it would be "very inconvenient" to abandon GE theory in order to "analyze the transition from one out-of-equilibrium position to another, so Hicks's Traverse is a traverse from one growth equilibrium to another" (Collard 1993, p. 343). Needless to say, Hicks's theory of the adjustment path, worked out on the assumption of a "fixprice" policy and a change in technology that does not influence relative prices, is unable to illuminate how monetary calculation guides entrepreneurs in choosing the most valuable uses (from the point of view of their current forecasts of future market conditions) for the perennially inappropriate capital stock. For a polite but devastating critique of Hicks, see Lachmann (1977).

Now, Mises's calculation argument focuses on a situation characterized by the absence of competitive appraisement of current resource prices based on entrepreneurial forecasting of the successive changes in the data that occur during the extended transition to the final equilibrium. In these circumstances, there is absolutely no possibility of determining whether and to what extent current productive services should be devoted to, e.g., maintaining existing railroad diesel engines, initiating a highway expansion project, constructing a new truck assembly factory, converting military cargo planes to civilian uses, etc. The shadow prices generated by the Lange-Hicks-Yeager linear programming "solution" are therefore incapable of providing the guiding light of economic calculation. And it is this alone which can save human actors from blindly toppling over into the abyss of irrationality and arrant wastefulness when choosing among social (i.e., nonautarkic) production processes.

Let us even grant further, as Mises (1966, pp. 713–14) does, that the central planner is miraculously inspired with an exact image of the final equilibrium state that is perfectly adjusted to the primary data of the problem. Without recourse to a social appraisement process, the planner would still be unable to calculate a transition plan that economically utilizes the services of the current capital stock. Of course, dynamic appraisement is even more important in the real world. Here, exogenous changes in the data continually deflect the economy from any temporal progression toward a given equilibrium. Thus, all entrepreneurial actions and innovations are guided by anticipated future prices reflecting, according to Mises (1966, p. 711), "only the first steps of a transformation" of market conditions in the direction of equilibrium.

It is instructive to consider the series of rhetorical questions posed by Yeager (p. 96) midway into his article. These are designed to drive home his point that Mises could not possibly have been contending about arithmetic. But once it is finally understood that Mises's arguments about calculation referred neither to arithmetic nor to knowledge but to appraisement, it also becomes quite clear that these questions do not merit the answer Yeager seeks to elicit. Representative of Yeager's queries are: "Was Mises conceding that the planners might conceivably assemble all of this unimaginably detailed information [about the economic data]? Was he balking only at the next step, denying that they could use all of it to calculate a pattern of production and resource allocation that would in some sense be optimal?" To these questions I reply with a resounding "Yes, indeed!" Mises did concede, for the sake of argument only, that

planners possessed perfect information.[5] But he emphatically denied that this information would be of any use to them in efficiently allocating resources.

I conclude with Mises's own words (which are difficult to explain away without invoking some problematic hermeneutical principle[6]): "It was a serious mistake to believe that the state of equilibrium could be computed, by means of mathematical operations, on the basis of the knowledge of conditions in a nonequilibrium state. It was no less erroneous to believe that such knowledge of the conditions under a hypothetical state of equilibrium could be of any use for acting man in his search for the best possible solution of the problems with which he is faced in his daily choices and activities" (Mises 1966, pp. 714–15).

[5]It should be emphasized that Mises did recognize a separate and "practical" knowledge problem confronting socialism. But he hastened to make it clear that it was not this problem that rendered a socialist economy a logical impossibility. Thus Mises (1966, p. 715) concluded his chapter in *Human Action* on the "The Impossibility of Economic Calculation under Socialism" with the following sentence: "There is therefore no need to stress the point that the fabulous number of equations which one would have to solve each day anew for a practical utilization of the [mathematical] method would make the whole idea absurd *even if it really were a reasonable substitute for the market's economic calculation*" [my emphases]. Mises then refers the reader in a footnote to Hayek's knowledge-based critique of the mathematical solution in the volume on *Collectivist Economic Planning* (Hayek 1975, pp. 207–14).

[6]Yeager (pp. 100–5) devotes over one-third of the text of his article to supporting his interpretation of Mises's calculation argument with appeals to similar interpretations advanced by other notable Hayekians on the contemporary scene as well as to his own past intellectual experience in coming to terms with Mises's writings. But it is precisely this now conventional explication of Mises's calculation argument–which rapidly became entrenched among Hayekians after the work of Don Lavoie—that SRH take issue with, because they believe it represents a palpable conflation of Hayek's and Mises's thought. Thus, it is difficult to see what these appeals add to Yeager's case beyond an argument from authority. For a critique of the unwarranted "homogenization" of Mises and Hayek by some contemporary Austrian economists, see Salerno (1993).

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