Journal of Contextual Economics, 142 (2022) 3: 209 – 229
https://doi.org/10.3790/schm.2024.375228

Systems-Theoretic LawMacro: An Antidote to Keynesian Indigestion?

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Abstract

This article was written for a Liberty Fund conference on "Liberty in Relation to Law and Macroeconomics." The paper works with recognition that the models we use are not neutral devices to see more clearly into reality because they also shade that reality in different ways. For instance, a model grounded on systemic equilibrium and aggregation will almost necessarily assign turbulence to market interaction and thereby place the calming of turbulence in the province of political action simply because there is no coherent alternative. By contrast, a model where turbulence is baked into the cake of human action will recognize that human action both creates and calms turbulence, and continually, and will also recognize that the continual shifting among coalitions that is a feature of democratic politics is even more likely to generate turbulence than to calm it, and with turbulence and calmness both being ordinary features of human society.

JEL Codes: B22, D72, D85, P48

Keywords: Aggregation, Transactional Structure, Materialism and Idealism in Economics, Systems Theory and Maffeo Pantaleoni (1911), Methodology of Scientific Research Programs

The German philosopher Ludwig Feuerbach (1804 – 1872) illustrated his materialism by asserting: "Der Mensch ist, was er isst" (A man is what he eats). For the last 100 – 150 years, economic theory has been fashioned mostly by theorists who think organized social life is materialist at its core, leading to a disciplinary focus on concerns stemming from the material relations of production and focusing on the allocation and distribution of resources among the members of a society. Economists weren't initially philosophical materialists. The philosophers of the Scottish Enlightenment out of which economics emerged in the 18th century were idealists. Such economists would assert something like "a man is what he thinks." This assertion is reducible to something like "a man is the concepts and categories with which he thinks as he navigates his way through the world." This alternative assertion would leave room for the allocation and distribution of resources within the discipline; however, resource allocation would be secondary to the focus of economics on the emergence of societal organization as the prime object of theoretical inquiry, as Adam Smith's body of work exemplifies.

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All the same, I see no point in exhorting economists to embrace idealism over materialism, philosophically speaking, because people will embrace what they find sensible and useful. There are, for instance, several paths along which economists can engage with materialism without embracing Marxism. Contrary to exhortation, I direct my effort to rearticulating what I think are false beliefs and presuppositions which nonetheless are widely held within contemporary societies. As a graduate student starting in 1963, I first came across Frank Knight and was struck especially heavily by his frequent assertion that "what hurts us is not what we don't know but is what we know that isn't true!" This heritage from Knight counsels us to focus on developing new articulations more than on exhorting people to will differently. With respect to the topic of this conference, it is wrongly presumed that political spending is the ballast required to offset market-generated instability. This presupposition is supported by simple intuition and direct observation on the same logical plane as the observation that the sun rises in the east and sets in the west. How to dispel that false belief is not easy but must be done to subdue the falsely-held view of the economic process wherein the aggregate state of economic life is rightly captured by data from the national income and product accounts (NIPA). It takes a theory and not a complaint to beat a theory, we all know, and what I set out to do in this article is continue my efforts in recent years to develop a better theory of how collections of people govern themselves (for instance, Wagner 2012a; 2012b; 2020). The key to that better theory is replacement of effort to aggregate over people by efforts to theorize in terms of human population systems of interacting agents. First, though, I start with some words about John Maynard Keynes and the style of economics associated with his name simply because the specter of Keynes towers over our topic for better or for worse.

1. Seeking After the Real John Maynard Keynes

John Maynard Keynes is a fascinating figure about whom Axel Leijonhufvud (1968) wrote 466 pages to distinguish between Keynes's personal vision of economics and the misappropriation by the economics profession of Keynes's name on behalf of a mechanistic style of economics unrelated to the core of Keynes's vision. Leijonhufvud summarized his theme in his title: *On Keynesian Economics and the Economics of Keynes*, making it clear that he thought there was a professional corpus called Keynesian economics that was unrelated to Keynes's orientation toward economics. With regard to the economics profession, the eminent historian of economics Mark Blaug claimed in the 5th edition of his *Economic Theory in Retrospect* that "never has the economics profession been more quickly and more thoroughly converted to a new economic theory than the speed and thoroughness of its embrace of Keynes's *General Theory*" ([1962] 1997, 642). Keynes was one of the world's most prominent economists. His *General Theory* elicited reviews from such economists of similar prominence as Frank Knight, Jacob Viner, Alvin Hansen, and Joseph Schumpeter, all of whom offered strongly negative appraisals. Despite those negative reviews, Keynesian economics had conquered the economics profession by the 1946 enactment of the *Employment Act 1946.* This Act effectively enshrined the hydraulic version of the Keynesianesque income-expenditure aggregation as offering valuable guidance for economic navigation in a perilous world. Within ten years of publication

of the *General Theory*, macroeconomics had been absorbed into the economics curriculum and Paul Samuelson had articulated the "grand neoclassical synthesis" by which macro theory faced the challenge of maintaining aggregate demand, which if successfully achieved the micro model of prices and markets would hold together, though only so long as the aggregate economy operated at full employment. I even recall discussions at professional meetings over whether micro or macro should be taught first: it was generally recognized that micro fit better with economic content and intuition. It was also presumed that it was macro that was necessary to hold the system together, subtly making political action the source of economic order.

Leijonhufvud might have been right about Keynes not being accurately captured by the hydraulic versions of Keynesian economics that emerged after 1936, but there can be no doubt that reference to "Keynesian economics" among economists referred to such hydraulic models as income-expenditure and IS-LM. Economists these days claim they have left Keynes behind, but this would be only in terms of the forms of theory but not in terms of the substance of those theories. Theoretical articulation has advanced from high school algebra to the calculus of variations which is encountered in the third or fourth year of the math curriculum. All the same, the object of interest is the aggregate volume of spending over some interval, and with it being presumed that some government agency has control of that target variable and with that control having determinate effect. The many varieties of Keynesian macro illustrate Knight's frequent remark that what hurts us the most is what we know that is not true. Macroeconomists since early after 1936 have mostly been engaged in spinning their analytical tales around the state of aggregate variables that merely summarize past action when the genuine challenge for economists is to theorize in terms of what hasn't yet appeared in history.

I have no desire to inquire after the real Keynes. My interest resides not in Keynes *per se* but in how the forms that our thoughts take influence our presuppositions about good social order. I don't think it is necessary to be true to Keynes while initiating inquiry into how a systems-theoretic conception of the relation between law and macroeconomics might serve as an antidote to indigestion caused by Keynesianesque policy, but neither do I want to slander someone. Besides Leijonhufvud (1968; 1981), such economists of whom I think highly as Robert Clower (1965; 1975; 1994) and George Shackle (1972; 1974) folded Keynes into their own embrace of philosophical idealism. Sure, they, as all economists must, address allocative and distributive questions in their theorizing; however, the world of human and social action about which they theorize is activated by the ideas people hold about their places in the cosmos, how they might realize their potentials, and numerous other queries that are prior to taking actions that affect allocation and distribution. Those theorists recognize that the way we think influence the outcomes of our thoughts. All the same, I also recognize that the income-expenditure model is clearly present in Keynes's *General Theory*, as Leland Yeager (1973) claimed in disputing the claims of Clower, Leijonhufvud, and Shackle by claiming that those authors unduly shifted onto Keynes scholarly credit that rightfully was theirs. I have no desire to engage in controversy about any possible distinction between Keynes's economics and the brand of economics that came to be called Keynesian economics. Any effort to do that would deflect attention away from my desire to explore how it is that theorizing society from a systems-theoretic

and transactional orientation has the potential for reversing a nearly century-long domination of aggregative thinking where transactions are aggregated out of existence. Also in play is my desire to marry that desire to a finer appreciation for the role of legal practices and institutions in bringing about more of a transactional architecture into political economy.

My analytical intention in writing this paper is to set forth a systems-theoretic orientation as superior to the aggregate style of macroeconomics. In particular, I seek to explain how it is that orthodox macro theory is covered by tissues of misunderstanding, incompleteness, and fallacy that cannot help but induce a continual parade of Keynesian indigestion subsequent to ingesting Keynesian remedies. By doing this, I hope to help foment eventual reversion to pre-Keynesian or classical sensibilities, only as strengthened and updated by such contemporary analytical developments as systems theory, complexity theory, and agent-based computational modeling.

Without doubt, Keynes rendered some conceptual formulations sharply at variance with the mechanical and hydraulic modeling that has become dominant among economists over the past century or so. Keynes's (1921) *Treatise on Probability* was as fully within the subjectivist voice as was Bruno de Finetti's (1970) summary statement: "probability doesn't exist." For a treatise on probability, this assertion might seem the epitome of nihilism, only it is nothing like that. To the contrary, de Finetti recognizes that probability resides in the minds of people deciding about actions to take and most clearly does not reside in anything material. Further with respect to subjectivism, Keynes (1937) was a restatement of *The General Theory* from a highly subjectivist orientation. It is not clear what Keynes "really" meant, for Keynes was slippery in his use of text. In the last chapter of his *General Theory*, Keynes claimed that "it is in determining the volume, not the direction, of actual employment that the existing system has broken down" (1936, 379). This statement would seem to place Keynes in opposition to all efforts at political and administrative action to affect the direction of employment in society, limiting the state to expanding or contracting the supply of money and credit in response to the state of aggregate demand. Despite this statement, the analytical core of the *General Theory* was the income-expenditure model where employment depended on aggregate spending, and with aggregate spending divided between private and political spending.

While contemporary macro theory superficially has left the $E = Y = C + I + G$ formulation behind for such formalisms as DSGE (Dynamic Stochastic General Equilibrium), and with algebra giving way to the calculus of variations: more political spending is still the antidote for offsetting declines in private spending. Within the Keynesian scheme there is no room for the possibility that an over-exuberant pursuit of spending this year can promote inflation and depression next year, which was the claim associated with Mises, Hayek, Robbins, and Eucken among a few others. On this point, we again confront recognition that the models we use to shape our thoughts will shape the thoughts we form. Approaching the world through an aggregate production function leads almost inexorably to a division of economic activity within society between those activities sponsored by private entities and those sponsored by political entities. Short of recognizing entanglement among private and political entities (Wagner 2016), it is almost inescapable that an economist will construe a decrease in private

spending as potentially remediable by an increase in political spending. This is an arithmetic feature of modeling in terms of statistical aggregates, which has been the dominant motif for addressing all semblances of instability at the macro level throughout the postwar period.

Keynes clearly did not think exclusively through the income-expenditure framework which his followers embraced. Even more, Keynes thought wrongly that British politicians would follow his jottings. Keynes reflected what Roy Harrod (1951), in his biography of Keynes, called the "presuppositions of Harvey Road," which surely renders reasonable even if not exact the modern macroeconomic presumption that governments can control the state of aggregate demand through its manipulations of money and credit, and with increased spending always being accompanied by expansions or redirections of money and credit. Those presuppositions entail the belief that British government is directed by men of good will and clarity of vision who through discussion among themselves will lead the ship of state almost invariably in a good direction.

Within orthodox equilibrium theorizing, the very framework of modeling economic life through aggregation cedes to governments the capacity for economic control. To explain the impossibility and even the destructive capacity of control requires an alternative conceptual framework. Where standard equilibrium modeling works by stipulating the ability of political action to achieve specified ends, the systems-theoretic model regards societies as operating continually within a process of assembly and reassembly, after the fashion of Bruno Latour's (2005) articulation of an actor-network theory of society and its processes. This alternative and surely more reasonable orientation toward societal processes shows that the world we inhabit is being continually reassembled through complex patterns of transaction that are simply outside the capacity of fiscal planning to create. Keynesian indigestion is what results when political entities act as though they are smarter and wiser than ordinary people, bringing about varying degrees of indigestion as reward for their hubris. In the early days of the development of public choice theory and its effort to convert politics from an aspirational into an explanatory orientation, Buchanan and Wagner (1977) explained that the postwar Keynesian prescription of budget deficits in bad times and budget surpluses in good times could not survive the strong competitive imperative that inhabited democratic processes. Most politicians have visceral desires to increase spending beyond what tax revenues will finance. They did not, however, have visceral desires of similar intensity to run budget surpluses in good times. Hence, the Keynesianesque notion of budget balance over the business cycle morphed during the postwar period into a regime of permanent deficits, accompanied by occasional budgetary commissions and reforms to reduce the political proclivity for budget deficits, as acknowledged by such legislative titles as "The Budget Control and Impoundment Act of 1974."

Perhaps no American year in modern times was more fateful than 1913 when the Federal Reserve Act and the Federal Income Tax were both established. Both pieces of legislation gave a strong expansionary boost to the federal government's portfolio of activities. The focus in Buchanan and Wagner (1977) was on the electoral incentives through which politicians could deploy their budgetary powers to maintain their holds on office, and with Wagner (2012a) amplifying that initial work. This paper, however, strikes out in a different direction, one initiated in Wagner (2012b; 2012c)

and continued in Wagner (2020). This different direction wrestles with the ability of the ideas that are in play about human social predicaments and conditions to influence the responses we take to those predicaments and conditions. To be sure, I do not draw a sharp distinction between ideas and incentives or ideologies and incentives. After all, incentives are as much mental states as are ideas. For someone like me whose philosophical favorites from the last century are people like Henri Bergson, Arthur Lovejoy, and Robin Collingwood, it is ideas all the way down. The human organism has material needs that cannot be denied without the organism dying, and yet mind is the source of human action, even that action attributed to tacitly held knowledge.

2. Aggregation or Transactional Structure? Overcoming a Conceptual Antinomy

Between 1936 and 1948, what had been the well-ordered world of economic theory blew apart. The destruction began with Keynes's publication of the *General Theory* in 1936 and was heralded by enactment of the Employment Act of 1946. Any remaining vestiges of the old conceptual order were destroyed by the 1948 publication of Paul Samuelson's *Economics* which quickly became the predominant economics text for the next generation. Prior to Samuelson, students learned their economics from textbooks fashioned after the 8th, 1920 edition of Alfred Marshall's *Principles of Economics*, if not directly from Marshall. Samuelson changed that situation as thoroughly as a windswept forest fire in the driest of seasons. Prior to Samuelson, economics was organized into such topics as consumers, producers, markets, labor, business, and finance, reflecting a social organization in terms of markets and finance along with modest place for government. Publication of Samuelson led quickly to collapse of that organization into the micro-macro dichotomy that has been with us ever since, and with government having ubiquitous presence. The material surrounding market interactions was reduced to a single semester, with the released space used to present macro aggregation through national income accounting and such exercises in aggregate analysis as the income-expenditure model, the IS-LM model, and exercises with aggregate demand and supply. In 1964, Armen Alchian and William Allen released their magisterial *University Economics* which restored the organon of economic theory to what Marshall had left prior to Samuelson. Alchian and Allen, however, found almost no audience, indicating that the micro-macro disjunction had been cast in proverbial stone.

Starting with Samuelson, economics has labored under the macro-micro conceptual antinomy wherein macro-level equilibrium must be prior to equilibrium at the micro or transactional level. For economists, the overall economic system is presented as an exercise in societal planning. Indeed, the Employment Act of 1946 effectively embraces the income-expenditure variant of Keynesian theory as being the framework for upholding the Employment Act's pledge of continued full employment, as if this is a personally responsible pledge to make when it is not. Economists have long recognized that macroeconomics is disjunct from microeconomics. Where microeconomics starts with recognition that the economic order of society emerges through transactions and seeks to illuminate the various conditions and processes that sustain those

transactions, macroeconomics imposes some incongruent set of directives onto that transactional process to conform to the full employment directive of the 1946 Act. Some economists have recoiled against this disjunctive relation between micro and macro; however, they have sought to overcome that disjunction by reducing their models of society to a single person or a representative agent as illustrated by theories of real business cycles.

Just because macroeconomics is articulated conceptually as if it were the action of some planning agency doesn't mean that the properties of the human population systems to which those models allegedly pertain genuinely reflects the action of some planning agency. The human world is filled with wrong-headed articulations for which the challenge is to develop alternative lines of articulation. I wish to accomplish two things going forward. The first is to sketch some aspects or elements of what will eventually become a transactional depiction of the material generally assigned to macroeconomics. The second is to explain how this transactional depiction will serve as an antidote to the Keynesian indigestion that is a common affliction of modern life, recognizing that Keynesian indigestion refers to continual expansion of political offices and officials in traditionally private life.

As presently constituted, microeconomics describes a world organized through transactions while macroeconomics describes a world where planning is injected into the world to improve its operation. The Swedish economist Knut Wicksell objected to the way that "economists thought about politics and public finance by observing that, with some very few exceptions, the whole theory [of public finance] seems to have retained the assumptions of its infancy […] when absolute power ruled almost all Europe" ([1896] 1967, 82). The situation Wicksell decried hasn't changed much, though at least there are now some economists who recognize that governments are more on the order of decision processes than welfare functions, or whatever other objective function might place the economist at the head of some process of allocating resources. It is easy to stipulate some equilibrated set of relationships, and economics is replete with such stipulations. It is far more difficult to proceed by stipulating abstract mental states within a human population system and proceed by allowing social configurations to emerge through patterns of interaction. To illustrate the distinction, it is simple to postulate the presence of gains from trade. It is more difficult and open ended to leave trading relations as phenomena that emerge through interaction within some societal nexus.

What might come of an exploration into law and macroeconomics? Law and Economics became a serious object of scholarly inquiry in the 1930s at the Universities of Chicago and Freiburg, although Alfred Marshall also identified law and economics as a field of examination in his proposal at Cambridge to take economics out of the moral sciences exam and give it independent standing (see volume II of the variorum edition of Marshall's *Principles*). The Chicago part of the founding of law and economics has been well-recited, with Aaron Director and Henry Simons providing the initial impetus and Henry Manne (1928–2015) propelling the study of law and economics from the minds of a few thinkers into an integrated treatment of the transactional foundations of all societies. Less well known is the similar development of law and economics in Germany due to the efforts of the lawyer Franz Böhm, for instance Böhm (1950)

and the economist Walter Eucken, for instance Eucken (1952), who together at the University of Freiburg fashioned an integrated treatment of the transactional character of societies. The integrated treatment of law and economics gave a jurisprudential vision to the study of law while giving substantive content to the articulation of economic theories.

The resulting schemes of analysis revealed the deep congruity among the economic, legal, and moral orders of society. The market order of society is perhaps nowhere better uncovered than by Frank Knight's (1921) two-part organization of *Risk, Uncertainty and Profit.* Part I was a venture in a type of idealized theory where he explored what would be required for it to be said about a society that everyone received their just deserts through a society and its processes. Knight recognized this idealized state of social life as standing outside history as illustrated by his model of perfect competition. In Part II, about twice the length of Part I, Knight explained how through diachronic action within society, societal configurations that could only be judged but imperfectly competitive were continually grinding away at margins of injustice, though without any end in sight to this process because life proceeded without end. To be sure, Knight was a dialectical thinker of an idealist sort, and most certainly not an end-state thinker. An interesting irony arises at this point. Knight is at the center of all the creative developments associated with Chicago economics in the early to mid-20th century, including law and economics, having brought Henry Simons to Chicago. For Knight, the articulation of a theory of perfect competition was not to create some target or objective but was to understand how a regime of freedom of association and private law without cartels entailed continual transformation within society of providing openings to newcomers while eroding established positions. Knight explained how societal coherence emerged not directly through intentional planning and political power but indirectly through people pursuing their plans within an institutional framework of continual diachronic action governed by the principles of property, contract, and liability. Those principles, moreover, reflected the common law scheme of a privately ordered society that Walter Eucken (1952) articulated in conveying his notion of order theory. This notion Eucken followed with his constitutional articulation of *Ordnungstheorie* as summarized in the principle of market conformability which allowed legislatures to legislate but which required the outcomes of legislation to be congruent with the neutrality conditions of market relationships.

Neutrality, though, is a property of societal organization within a regime of free exchange and is not a property of political stipulation or regulation where political action is the province of coalitions (Riker 1962). Behind that principle lies the presence of a moral order of society grounded in equality under the law. A market order is what emerges when human interactions are governed by the legal principles of private property, freedom of contract, and personal responsibility or liability. Those legal principles reflect particular elements of personal morality. To illustrate, the principle of private property is acceptable to those who hold the moral principle that you should not take what is not yours. The principle of freedom of contract is acceptable to people whose moral states could be reasonably described as keeping their promises and commitments, or at least of making good the harms that others suffer through breaches. The principle of personal responsibility likewise reflects the personal morality of making good the harms you inflict on others. If there were to exist a society where this form

of morality held general sway, that morality would serve to order disputes among the members of that society within the province of private law. Of central concern to any exploration into law and economics is the place of politics and political offices within a society. In this respect, there are two core models of democratic governance, along with innumerable detailed differences within those core models. Those core models are factionalism and universalism. Universalism reflects some notion of consensual democracy, which is not identical to unanimity because unanimity is quantitative and consensus is qualitative. The pure model of factional democracy is a majority dominating a minority, though minorities can also dominate majorities. Walter Eucken (1952) articulated market conformability as a construction to limit the range of state action, on paper anyway even if not within parliamentary assemblies. Also noteworthy as contrast to the presuppositions of Harvey Road is Antonio de Viti de Marco's (1930) *Un trentennio di lotte politche, 1894 – 1922* [*Thirty Years of Political Struggle*]. These essays were written during de Viti's time as a member of the Italian parliament, and they all illustrated his resistance to the dominant coalition in the Parliament. Besides being the premier theorist of public finance in Italy from approximately 1880 – 1930, de Viti also served nearly 20 (not consecutive) years in Parliament from his home district near Lecce, and with Manuela Mosca (2016) supplying integration for de Viti's theoretical and political career.

3. Maffeo Pantaleoni (1911) and Systems-Theoretic Political Economy

George Shackle (1972) offers the crucial distinction between synchronic and diachronic modes of thinking, and with Feuerbach's assertion roaring forward with Shackle's articulation of this distinction. Synchronic thinking is the theoretical mode of nearly all economic and social theorizing. After all, aggregation abolishes all of the actions that generate the aggregated data, leaving only those remnants of the obscured process through which the data emerged. To use an image I first used in Wagner (1997), a synchronic mode of thought analogizes a society to a parade. The units in the parade march in an equilibrium relationship with one another, and the parade in its entirety is coordinated by a parade marshal. Any such disruption to the parade as a float's engine conking out or a horse bolting and throwing its rider will entail momentary delay after which the parade resumes its order of march. The coordination of the parade is the province of the marshal, which role is occupied by the state in contemporary economics and political economy. In sharp contrast, the exit of spectators from a stadium or arena after an event illustrates diachronic action. Someone hovering above these exiting spectators will surely be inclined to describe the scene as chaotic in contrast to what was seen when hovering above the parade. Some bumping and jostling will occur as spectators change their directions and speeds of travel. All the same, the spectators will pretty much arrive at their destinations within the time frame they anticipated. The exit of spectators is orderly and not chaotic, as judged by the intelligibility to the participants of the pedestrian flow inside of which they find themselves.

The source of order resides inside the spectators and does not come from some outside imposition of power. That source of orderliness has several constituents. One is a general lack of interest in treating each other as the human equivalent of bumper cars at a carnival. Another is the ability people have to form reasonably accurate judgments about future points of intersections with other pedestrians to enable revisions of speed to avoid collisions. Yet another is the ability of people to infer intentions which also aids in avoiding collisions and fights. The source of orderliness within these social configurations resides inside the exiting spectators. Sure, there typically is some political presence that assists the exodus, but it is also notable that this presence is typically supplied by off-duty officers who are financed by the event's sponsors. The distinction between synchronic and diachronic modeling brings us to the bogy of tractability and also of Ockham's razor. Tractability refers to the desirability of developing models that can be manipulated. Ockham is associated with the counsel of avoiding unnecessary complications in models. Both of these injunctions are surely reasonable, and yet each is easily corruptible and, moreover, is ambiguous at its core. Both concepts bring into play George Polya's (1954) contrast between demonstrative and plausible reasoning, and with those terms typically folded into a demonstrative scheme of thought despite the material present in the situation invoking plausible and not demonstrative concepts. While it is possible often to offer proofs of theoretical statements and conditions, it is often impossible to support definitive judgments in history, as Steven DeCanio (2014) explains in *The Limits of Economic and Social Knowledge.* Whether one works with the earlier income-expenditure model or the later DSGE model, the underlying model is assimilated to a parade characterized by synchronicity and instantaneousness. Neither of these conditions characterize actual societies, recognition of which brings us to one of those analytical forks in the road.

It is easy enough to articulate a coherent economic policy where government spending is residually determined in response to some estimate of projected private spending. This is the way of the income-expenditure model as well as of DSGE. Notice, however, that the object to be estimated is some projection of aggregate spending. Aggregate spending, however, is a derivative and not a primary variable. Spending is undertaken to achieve something, and that something is the purpose of that spending. It is common for economists to illustrate their models by using such two-good models as guns and butter or private and public goods. This use of models contributes to the illusion that economists can produce the outcomes their models describe. If there were a scene where all Robinson Crusoe could do was to search for coconuts or hunt squirrels, it is reasonably imaginable that an observationally-accurate model of Crusoe could be constructed. Even a person actually stranded on an unpopulated island will have more than two activities for pursuing survival. This kind of model uses pure fantasy to cover over the general inability of simple models genuinely to provide reliable guidance in support of the tasks to which those models are assigned. It is easy enough to sketch a simple model after the fashion of comparative statics. The model would envision the existence of a few expenditures, perhaps conveyed by a guns and butter model or a consumption and investment model. Any such model is a fantasy that enables the speaker to pretend to speak truth to power when what is being told is pure fantasy.

Such models entail two objects of spending, and with it being easy to manage a situation like this. No reality, however, resembles this depiction of reality. To the contrary, there are countless margins along which such models are wrong headed. As a simple illustration, consider Stuart Kauffman's (2014) recognition that there are somewhere around ten billion recognizable items for sale in New York City, and try just for a moment to take seriously the guaranteeing of full employment across that many margins of action. Someone who accepted the burden of guaranteeing full employment within this environment would find it impossible to do so because it would be necessary to get behind the aggregate measures to the real transactions from which those measures emerge. A significant question that warrants inquiry all the same is how it is that questions that are impossible to answer become objects of political discourse all the same. Standing in opposition to aggregation-style economics which reduces an ecology of interactions to a relative handful of statistics must stand a class of system-theoretic models which work with parts-to-whole relationships where it is transactions that energize the system and with monetary measures being merely one way of summarizing those transactions.

At this point I should like to bring forward Maffeo Pantaleoni's (1911) model of interaction between two distinct systems of economic organization. Pantaleoni presented his model in two parts and asks us to envision a world inhabited by two bazaars, each of which contains shops that carry goods and services. Pantaleoni sought to explain the social organization of human activity under recognition that human nature was always in play, but that it can play out differently depending on the practices and institutional arrangements that people generate through their actions and interactions. Pantaleoni used his two-bazaar model to gain insight into the comparative properties of systems organized through market pricing and systems organized through political pricing, while recognizing that those systems inhabit the same geographical space which means that they are not independent from one another. The bazaar organized through market pricing was theorized according to the theory of competitive equilibrium that was taking shape when Pantaleoni wrote. The key feature of that theory is that competitive prices reflect technical conditions of production as characterized by the condition that prices equal marginal cost of production. The bazaar would be organized into many stalls of varying size with each selling products at their marginal costs of production. For Pantaleoni, this was a simple restatement of the theory of competitive equilibrium.

Pantaleoni's uniqueness came through his conceptualization of the political bazaar. Pantaleoni, like a vibrant cluster of Italian theorists at the time, sought to render the organization of political activity an object of scientific inquiry as against simply being an object of instruction or exhortation. Those thinkers thought that politicians knew how to be politicians and needed no instruction from economists. The challenge for economic analysis was to uncover the hidden logic of political action which Pantaleoni explored through modeling a bazaar organized within a system of political pricing. Market prices were technically determined by objective relations of production, according to the economic theory of Pantaleoni's time. Political prices were not technologically determined, and yet Pantaleoni needed some concept of political pricing to generate an emergent model of the economic organization of the political bazaar that would account for both the sizes of the two bazaars and the relative sizes of the stalls in

the political bazaar. The market bazaar was ordered by the private law principles of private property and market pricing. The political bazaar was ordered by the public law principles of political pricing.

To enable him to move beyond superficial generalities, Pantaleoni posited that the shops in the political bazaar were financed through a flat-rate tax on all income. While Italian taxation at the time was more complex than a flat-rate tax on all income, this tax scheme allowed Pantaleoni to theorize about relations between the stalls within the two bazaars. The purpose in invoking this tax scheme was not to advocate for it but was to illustrate how there were scientific and not just normative considerations in play in governing the organizational features of the two bazaars. One obvious feature of this two-bazaar model is that price discrimination was built into the very operation of the political bazaar. Where market prices are independent of a buyer's income, political prices vary directly with a buyer's income.

One obvious feature of Pantaleoni's model is that shops in the political bazaar cannot compete under equal conditions with shops in the market bazaar. If there were an instance where two such bazaars were actually established under the conditions that Pantaleoni described, the market bazaar would flourish and the political bazaar would die because it could not attract shops and merchandise. It is worth noting that the standard theory of public goods envisions, though only normatively, free standing political and market bazaars. Pantaleoni's central insight, however, is that the only way the simultaneous existence of market and political bazaars can be explained is by invoking entanglement among the shops within the two bazaars because under separation between the two bazaars, the political bazaar will be unable to attract to attract sufficient support to compete with market bazaars. In this respect, Pantaleoni articulated a variant of the impossibility of socialism nine years before Mises (1920).

While Pantaleoni (1911) did not articulate some concept of entangled political economy (Wagner 2016), it is clear that he recognized the fact of entanglement among private and political entities and organizations within society. Illustrations of entanglement surround us and engulf us, as well as being subject to continual evolution. It is the character of entanglement in the organization of social activity that forms the transactional nexus within an entangled system of political-economic relationships. Common instructions for budgetary policy synchronized in terms of any aggregate model will be irrelevant to the actual process that is generating the outcome. Those outcomes are likewise generated through rule-governed relationships of a complex sort where the outcomes have only tangential relationship to models of aggregate analysis, realizing that any aggregate magnitude can be constituted through an indefinitely large number of structured quantities and relationships.

4. Method, Substance, and their Entanglement

It may be comforting for a theorist to think that he or she can separate the methods used from the substantive questions that a field of study addresses. Such separation, however, lays a highway to theoretical incoherence because substance and method are entangled. For instance, a theory which posits that our observations pertain to states of

systemic equilibrium, as all modern macro theories do, will have no analytical space for the internal generation of systemic turbulence. Within orthodox schemes of thought, turbulence is a defect to be eliminated through using policy to perfect the system. Policy measure after policy measure may be tried, only with turbulence never ceasing. A normally inclined person would likely conclude that there is something wrong with the theory that is used to provide guidance. But politicians aren't normal people, as Pareto ([1915] 1935) recognized and Wagner (2016) amplified. Once it is recognized that turbulence is a normal feature of any human population system, the *ipso facto* presumption that turbulence calls for corrective policy vanishes because there is no way that a mapping can be constructed from the missing transactions that, if made, would have absorbed turbulence to the structure of transactions that would have accompanied the spending program. L. A. Hahn (1949) perceptively associated Keynesian economics with the economics of illusion. If we start from recognition that politicians are inclined toward spending programs, they will surely be inclined to overlook any deep probe into the etiology of systemic turbulence and how fiscal policy might or might not insinuate itself into that etiology. An alternative, systems-theoretic analytical scheme would theorize in terms of the internal generation of turbulence (Wagner 2012b; 2012c; 2020; Devereaux and Wagner 2020). Any such theory cannot rest on presumptions of systemic equilibrium and must rest instead on a different ontology of human population systems and their properties. It would be no analytical improvement to create a macro model of an oscillating society that incorporates both periods of systemic equilibrium and intervals of systemic disruption, bringing to mind the postwar models of interaction between accelerator and multiplier principles, for these too are constructions of people looking for reasons to support increased spending to promote stability. All such models posit systemic properties for a parade and not a crowd of exiting spectators. Any such theoretical effort, in other words, would be about as nonsensical as the chemist who was looking for a container to bottle a newly discovered universal solvent. Someone who thinks or believes that turbulence of variable intensity will be an intelligible feature of modern societies will be unable to convey that idea with a model of systemic equilibrium. All the same, a theorist who sought to portray the regular patterns of activity that occur throughout societies will need recourse to something resembling systemic equilibrium. Someone who recognizes regions of both regularity and turbulence and who seeks to incorporate them both into a theory of society will either need different theories for different situations or develop a universal theory that is capable of shifting between different systemic states much as a caterpillar morphs into a butterfly, as reflected in Stefan Kolev's and Ekkehard Köhler's (2022) comparison of Chicago and Freiburg as hotbeds of economic scholarship in the 1930s, and in a manner that is congruent with how I deal with this material here.

Whatever a theorist sets out to examine, substance and methodology are joint products. The simple fact of the matter is that none of us can see the entirety of the society we are examining. Either the theorist must resort to the projection of imagination or to statistical sampling. At this point, we come in contact with modern theories of complexity in conjunction with long-standing theories of simple phenomenon for which statistics are suitable for accurate description in the presence of large numbers. It is easy enough to think that many events happen that no one planned and they just hap-

pened all the same. These may be reasonably described as random variables. But there are also many events that happen which were planned by someone, in which case the event is not a random event. The difference between the two types of events or situations is what Warren Weaver (1948) described as the boundary between simplicity and complexity. To be sure, the social world surely also contains many kinds of joint phenomenon as against being either simple or complex. For instance, a model of systemic equilibrium will neuter any effort to explain how turbulence is a feature of social systems organized around principles of liberty and free exchange. To convey those intuitions will require the theorist to construct an alternative theoretical framework. It need not be a framework that allows a theorist to predict where and when turbulence will erupt and to describe its likely intensity. Soothsaying or prevision lies beyond the limits of scientific competence (DeCanio 2014), although it is a reasonable use of such a theory to illustrate how particular types of action within a social system can generate turbulence. Our theories are reminiscent of the Roman god Janus who was described as facing in two directions simultaneously. A theory of economic equilibrium will require that all objects with economic value within society be deployed in a manner in which it is impossible for the owner of any resource to attain a more highly valued use of that resource. How that deployment is explained or described will depend on theoretical presuppositions that have nothing to do with those objects of value and everything to do with relationships among the persons who constitute the society to which the relationships and the objects pertain.

5. On Janus and the Methodology of Scientific Research Programs

What does the Roman god Janus have to do with the methodology of scientific research programs? Janus is often depicted as showing two faces looking in opposite directions. The methodology of scientific research programs (MSRP) (Lakatos 1976; 1978) explains that the practitioners of any research program will adhere to some unquestioned presuppositions while they go about their explorations. Different scientists can explore similar analytical territories while differing in the particular presuppositions they treat as data. Different schools of thought can form on the scientific landscape as Randall Collins (1998) examined in *The Sociology of Philosophies.*

Janus is relevant because different sets of scientists look in different directions to explain their common phenomena of interest. They face in different directions because they hold to different presuppositions about what must be treated as data in any scheme of analysis. A materialist economist who embraces the presumption that aggregate spending and its distribution offer primitive insights into human welfare will theorize differently than an idealist economist who believes that human well-being revolves around the capabilities of people to generate interesting and meaningful lives for themselves. The methodology of scientific research programs instructs us that we can only think with models even if we are not aware of doing so. Further, any such model must include unquestioned presuppositions in conjunction with efforts to peer into particular phenomena of interest, and with Mary Morgan

(2012) offering an entire treatise regarding the history of many of the models economists have developed to illustrate their theories.

Devereaux and Wagner (2020) contrast DSGE and OEE styles of macro theory. DSGE is a revised version of the postwar income-expenditure theory wherein the aggregate or systemic level is directly accessible by a theorist or policy maker. OEE stands for open-ended and evolutionary and denotes recognition that aggregate variables are derivative from patterns of interactions among transactors throughout a society. The models we use unavoidably guide our patterns of thought even if they don't determine them completely. Most economic modeling proceeds through spatial references. Consider Warren Weaver's (1948) distinction between simple and complex phenomena and, even more, the distinction between organized and unorganized complexity. DSGE modeling within the original income-expenditure modeling represents an instance of simple phenomena. While the collection of the income and product accounts is complicated and requires the management of many accountants and statisticians, the phenomena being dealt with are simple and involve little more than the creation of categories, the assignment of transactions among categories, and the counting of instances.

The OEE scheme of thought is strikingly different. Spending is not a primitive variable in this class of model. Primitive values here are the commercial plans people form, the agreements they make, and the organizations they establish to propel those plans forward into society. The initial stages of those plans are confined to transactions on the capital accounts. Ordinary commercial transactions grow more significant as plans start to mature. Over any interval of time, some set of transactions from a plan enters the income and product accounts. That set of transactions, however, is but a part of entire set of transactions and conversations that leads forward any particular enterprise within the societal ecology of plans (Wagner 2012b).

The prevalence of spatial modeling and images within economics illustrates sharply how the models we use affect the analytical statements we advance. The most common spatial image in use is a plane but a sphere is nearly as easy to work with. Either surface is amenable to models of maxima and minima. Either type of model accommodates easy manipulation of a language of policy analysis that the presenter alleges illustrates the salutary contribution of the policy measure to human and social well-being. There is obviously a sizeable market for the supply of guidance that conforms with these simple models. It is easy enough to create more complex spatial models, but their value would depend on the ability of such models to yield insight that simpler models could not yield or would yield more correct insights in place of the misleading and even incorrect insights yielded by simpler models. Within Euclidian space, the assembly of knowledge resembles two people who have partial maps and who combine their incomplete maps. Euclidian space is useful for illustrating simple computational settings, which in turn suggests such models are more useful for advancing ideological contestation than for engaging in scientific inquiry into phenomena that are engulfed in murkiness.

Combinatorial space opens into a far richer menu of analytical possibilities. Within Euclidian space, a sharing of knowledge between two people will create some region of common knowledge, which is a concept widely employed in economic and social

theory. Within combinatorial space, by contrast, common knowledge is an ambiguous concept, and with the ambiguity increasing with increases in the number of constituents to which the identifier "knowledge" pertains. By way of illustration, compare a circle with a high-dimensioned Koch snowflake. The higher the dimension the more fully the Koch snowflake resembles a circle, especially when viewed from a platform in space. A circle, however, has a determinate circumference. A Koch snowflake does not. A circle is a closed concept; a Koch snowflake is an open concept. Centering thought on a circular model yields definitive answers to posed questions. Replacing the circle with a Koch snowflake replaces answers with yet more questions. This is a feature of thinking while using open-ended models to aid that thinking.

The point of this spatial distinction, however, is not that the different types of spaces have real existence and that we can choose between them. It is rather that different spatial images help us focus our analytical attention in different ways. Someone who fills the role of a parade marshal had better work with notions of Euclidian space in organizing the parade, for that parade would never get organized if the marshal thought in terms of combinatorial space. Such macro models as IS-LM of old or DSGE of recent vintage portray the problem of a parade marshal. Analogues from combinatorial space, by contrast, are suitable for summarizing situations that a great society whose members want the liberty to conduct their lives confront in working their ways through the ecology of plans in which they are encased. The idealized model of free and open scientific inquiry that Gordon Tullock (1966) set forth reflects a model of inquiry in combinatorial space where inspiration can be found in many places and depends upon the perceptiveness of the inquirer.

6. What Might an Induced Demand for Law and Macroeconomics Accomplish?

Where the concepts and categories of law and economics have always kept alive a place for individual responsibility for undertaking action within society, macroeconomic thinking replaces human action with aggregation. Contemporary discourse is dominated by the aggregate style of thought, as conveyed by references to inequality, racism, competitiveness, and myriad other topics where the discussion turns on aggregate variables and not interactions among people who are pursuing their plans and purposes. The hopeful presupposition behind the organization of this symposium is that an induced demand for the integrated study of markets and administration might gain analytical attention space relative to continuation of macro orthodoxy. Indeed, Richard Wagner's (2020) *Macroeconomics as Systems Theory: Transcending the Micro-Macro Dichotomy* uses systems theory to offer a few glimpses into how this might be accomplished. The prime presupposition behind the organization of this symposium is that the systemic conditions in play within modern societies emerge through human interaction within some framework of rules and are not objects that some planner, benevolent or not, selects. Especially to be noted in this respect is Stefan Kolev's (2018) essay where he examines James Buchanan's body of work in relation to the prewar scholarship pursued by thinkers in Chicago and Freiburg.

The impetus for law and economics originates in recognition of the ubiquity of transactions: the economic order is generated through myriad transactions of varying complexity and with those transactions shaped both by the legal and economic processes of organizing transactions. The entire scholarly enterprise of law and economics is shaped according to the internal logic of transactors where participants strive to secure gains from trade. For macroeconomics stated in policy terms, however, there are no transactors seeking to capture gains from trade. Sure, the policy situation can be expressed in terms of gains from trade, but this would represent more of a metaphysical than a practical use of language. A governing party can seek to marshal support for trillion-dollar programs to stimulate economic activity in particular directions. Rather than being called macro policy, it can be incorporated into economics under the headings of rent seeking and political business cycles. The central idea behind this literature is that politicians will seek to expand spending if they think such spending will boost their forthcoming electoral prospects. There is, moreover, controversy within this literature over whether the focus should be on macro aggregates or should be placed on micro patterns within the aggregates. In any case, the idea of a political business cycle can be reasonably incorporated into a program on law and macroeconomics.

So too can administrative law, thinking of Philip Hamburger's (2015) book, *Is Administrative Law Unlawful?* Actions by administrative agencies can influence patterns of economic interaction, thereby exerting effects on aggregate economic variables. One thing that must be said about law and macroeconomics is that macro is incongruent with economics as it emerged out of the Scottish Enlightenment. Those theorists sought to uncover the hidden logic that informed the order of society. There is a form of macro theory that is congruent with the invisible hand formulations that stem from the Scottish Enlightenment, but it is nothing like the collective planning formulations of modern macro and rather is reflected in Richard Wagner's (2020) *Macroeconomics as Systems Theory* where macro refers simply to an accounting and description of the aggregative qualities that emerge from within a society governed by rule-of-law principles.

The macro that goes by the name Keynesian and as incorporated into legislation with the Employment Act of 1946 is predicated on failures of invisible hands and on the necessity of political action to promote and maintain societal prosperity. Modern macro is comfortable with administrative law, in contrast to Wagnerian-style macro which is fully comfortable with Philip Hamburger's *Is Administrative Law Unlawful?* What are generally described as macro policies are just instances of administrative edicts. Some of those edicts would concern particular markets, as illustrated by leases of federal lands or the enforcement of statutes regarding age discrimination. Other edicts appear to have more of a systemic impact, as illustrated by regulatory activities sponsored by the Federal Reserve or the Federal Deposit Insurance Corporation. So, too, are administrative edicts as illustrated by requirements to lower the performance of such household appliances as washing machines, dishwashers, and toaster ovens all in the pursuit of green energy. Regardless of whether classified as micro or macro, the administrative actions generally spread concentrated gains and diffused losses among the governed population.

Keynes advanced his formulation at a time when the western heritage of limited government that largely occupied the societal background was still the dominant vision of political economy, and yet it was receding with an on-going depression and a war soon to follow. What came after was an era of entangled political economy where commercial and political activity have become thoroughly commingled, and with entangled political economy set forth by Richard Wagner, *Politics as a Peculiar Business* (2016), Mikayla Novak, *Inequality: An Entangled Political Economy Perspective* (2018), and David J. Hebert and Diana W. Thomas *Emergence, Entanglement, and Political Economy* (2021). A pithy summary of entangled political economy, voiced by Marta Podemska-Mikluch, founder of the Entangled Political Economy Research Network, is: "regulations are more of a feature than a bug of democracies."[1]

The conjunction of Hamburger's treatment of administrative law and the expanding interest in entangled political economy which looks for a form of unification of politics and commerce as activities steps dramatically away from the vision of politics as exerting a supervisory role over commercial activity. Yes, politics does undertake supervisory activities, but not so much because those activities denote failures by commercial entities as because they reflect the strongly held desires of significant political coalitions to enact programs that provide gains for supporters of those programs at the expense of the remainder of the citizenry.

7. One Illustration of Aggregation vs. Transactional Structure in Closing

This essay turns on the theoretical disjunction between aggregation and transactional structure as alternative orientations for social theorizing, along with a sense that theories aimed at transactional structure will give recognition to the self-correcting features of market processes that theories centered on aggregation suffocate by allowing no room for self-correcting processes to breathe. At present, aggregation is the only game in town with respect to discussing the systemic properties of human population systems. Being the only game in town, theorists can only go where their theories allow them to travel, which is confined to aggregation in one form or another. I embrace the presumption that if models grounded on transactional complexity were to gain greater currency among economists, macro orthodoxy would start to lose its hold on the profession and potentially be replaced by an updated form of the order theory generated within Freiburg and Chicago in the 1930s.

I should like to illustrate my point with the familiar Edgeworth box model of exchange and gains from trade. This model proceeds by stipulation and aggregation, in that the separate traders are aggregated into a trading unit and the existence of gains from trade are stipulated in advance. This approach has the theorist creating a prefabricated universe from which exercises can be performed and policy actions illustrated. What is especially notable about this model is that it entails no process of internal generation. If you were to ask how those people came to be in that trading relationship, you would be asking an irrelevant question because the point of the exercise was noth-

[1] See https://entangledpoliticaleconomy.org.

ing more than to illustrate gains from trade. You might say to yourself that the people must have been aware of possible gains from trade before they engaged in trading. At his point, however, we are moving into matters of transactional structure and the replacement of stipulative modeling with generative modeling.

By generative modeling (Epstein 2006), I mean a theoretical movement where interactions among simpler elements generates more complex social arrangements and with those arrangements in turn influencing future social activity. Suppose two people exist in a state of autarky and occupy adjacent plots of land. One property has a pond fed by an underground stream from which an irrigation ditch has been dug. The other property suffices with dry farming as the well supplies only enough water to supply drinking and cooking needs. The farmer with the irrigation suddenly wonders whether he could profitably extend his irrigation ditch to the neighbor. This entrepreneurial action is prior to exchange, and the two are now brought into a trading relationship. While there are numerous possible forms the relationship could take, what is especially notable is that the simple principles of property and contract offer a rich framework for creating a massively complex menu of commercial organizations (Epstein 1995). The formation and reformation of commercial relationships surely also helps stir turbulence at places within the overall sea of commercial activity, only it is hard to see how anything called aggregate demand management will calm that turbulence (Wagner 2012c).

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