



ISSN 2291-5079

Vol 4 / Issue 1 2017

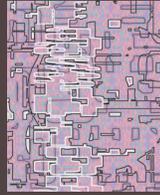
COSMOS+TAXIS

Studies in Emergent Order and Organization

COSMOS + TAXIS

Studies in Emergent Order and Organization

VOLUME 4 / ISSUE 1 2017



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Pink Fashion

Digital Painting

24 by 24 (2010)

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Polanyi, Hayek, and Adaptive Systems Theory

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Abstract: The characterization of science as a “spontaneous order” was forcefully put forward by Michael Polanyi in his principled opposition to schemes for government management of science pressed in the 1930s and 40s. Polanyi insisted that scientific communities were self-governing arrangements based on tacitly held liberal traditions which would be destroyed by the application of central control. At the same time, in response to the trends toward government economic planning, F.A. Hayek was also exploring the idea of spontaneous order, but applied to the economy rather than to science. Hayek argued that the prices emergent from the interactions within the market order could not be duplicated by central planning.

While Both Polanyi and Hayek employed the concept of spontaneous order to expose the unintended consequences of government control, neither put forward a fully consistent theory of spontaneous order. Polanyi not only favored prescriptive rules for science but also, in arguing that government funding would be helpful in enabling scientific research to proceed unhampered, seemed oblivious to the unintended effects that could arise from such funding. Hayek, influenced by both Polanyi and the “general systems” ideas of Bertalanffy, later tried to generalize the spontaneous order concept from markets to other social orders, but his use of the idea in the defense of classical liberalism introduced normative elements that betrayed the basic scientific thrust of his approach.

Notwithstanding their brilliant and enduring insights, we argue that Polanyi’s and Hayek’s treatments of spontaneous order are certainly incomplete and are marred by normative and interventionist elements. We claim, however, that, building on their work, the theory of adaptive systems can go a long way toward providing an approach that avoids unnecessary normative excursions, is grounded in generalizations of the observed characteristics of actual systems, and advances the understanding of spontaneous order in general.

Keywords: Polanyi, Hayek, complex adaptive systems, emergent orders, science

1. INTRODUCTION

The idea of “spontaneous order” was in the air in the 1920s. The term itself was not yet in use—that came later in the work of first Wilhelm Röpke, then Michael Polanyi, and, finally and decisively, Friedrich Hayek¹—but the concept was there.² The setting was not in the context of economics, despite obvious earlier foreshadowing in the writings of Mandeville, Ferguson, Hume, and Smith in the 1700s and Menger in the 1800s,³ but in biology and psychology, where theorists of both were seeking to establish their fields as positive sciences distinct from physics and chemistry.

In the 1920s the biologists Joseph Woodger at the University of London and Paul Weiss and Ludwig von Bertalanffy

in Vienna argued against the vitalist account of the biological world for its apparent introduction of a non-material animating force and against materialism for its reductionist neglect of the importance of the relations between the constituent parts of a biological system.⁴ Their crucial innovation was the emphasis on “system thinking”—the taking account of the interrelations and interactions between the ordered components of biological systems which resulted in the emergence of phenomena at the system level which could not be described except in terms of the system context, thereby justifying a distinctive subject matter for biology.

A similar argument was taking place at the same time among psychologists, and doubtless the ideas of biologists and psychologists cross-fertilized each other. In opposition

to the associationist's reduction of mental phenomena to elementary sensations and to the behaviorist's mechanistic concentration on elementary stimulus and response and denial of higher-level mental phenomena, and also in opposition to any suggestion of a "thinking substance" separate from physical matter, Max Wertheimer, Kurt Koffka, and Wolfgang Köhler, working at the Psychological Institute in Frankfurt-am-Main and building on earlier work of Wilhelm Wundt, developed the theory of the "Gestalt". The basic thrust of Gestalt psychology is the insistence that perceptions are not the sum of elementary sensations but result from the capacity of the nervous system to organize and mold those sensations into a perceived whole.⁵ Again, we see the idea of the emergence of system-level phenomena from the ordered interactions of the constituents of the system. In both biology and psychology, "system thinking" was on the rise.

This, then, was the intellectual environment in which Polanyi and Hayek, early in their careers, moved. Although Polanyi established himself as a distinguished physical chemist at the world class Kaiser Wilhelm Institute in Berlin in the 1920s and then from 1933 at the University of Manchester, he became immersed in social theory and the sociology of science as a result of his alarm at the growing pressure for State planning of science. From 1935 on he dedicated much of his academic activity to this field. Hayek emigrated from Austria to England in 1931, joining the faculty of the London School of Economics. Already well versed in philosophy, law, and psychology, and familiar with the work of Menger, Hayek began to question the equilibrium focus of economics and increasingly incorporated into his work the sort of system thinking described above.⁶ The concept of spontaneous order had been discovered many times before, but after Polanyi and Hayek it didn't need discovering again.⁷

But regardless of their insightful and ground-breaking theorizing on spontaneous order, their work does not constitute a fully consistent positive theory of spontaneous order. As we shall explain in detail, their treatments were both incomplete and marred by normative elements. We argue that their positive treatment is not wrong, but it does not go far enough. Their introduction of normative and interventionist elements are premature and diversionary; we argue that a positive analysis of spontaneous order (incorporating modern versions of "system thinking" in terms of complex adaptive systems—dynamic, self-organizing networks of structured interactions) should be pushed as far as possible before introducing or deriving normative propositions, and we outline a possible direction that this could take. While social theory inevitably bumps into important normative is-

ues, we hold that the premature introduction of normative propositions unnecessarily muddies the waters and diverts attention away from a more complete understanding of the phenomena in question.

2. MICHAEL POLANYI AND THE SPONTANEOUS ORDER OF SCIENCE

2.1. The threat of central control

When Polanyi arrived in England in 1933 the Social Relations of Science Movement, which denied the legitimacy of pure science and claimed that scientists should not independently serve their own aims but the practical needs of society, had gained the endorsements of many leading British scientists. Respected scientists, such as J.R. Crowther, L. Hogben, and J.D. Bernal, called for central planning and direction of science by government.⁸ Polanyi saw their proposals as a clear and present danger to science that needed to be actively countered.⁹

As Polanyi mentioned in "Rights and Duties of Science" (1939, p. 3), on his 1935 visit (one of several) to the USSR he heard Bukharin explain that pure science was an illusion created by capitalist society because, as Polanyi recounted, "the distinction between pure and applied science was inapplicable" in communist society. This claim had become a rallying cry of the Marxist theory of science espoused by the aforementioned "social relations of science" movement among British scientists in the 1930s. The idea was that only in communist society would scientists, in shedding their capitalist baggage that "deprived scientists of their consciousness of their social functions", inevitably pursue scientific research compatible with the social goals of the central planning of science. As Polanyi wryly noted, "Accordingly, comprehensive planning of all research was to be regarded merely as a conscious confirmation of the pre-existing harmony of scientific and social aims" (1939, pp. 3-4).

In 1936, Polanyi was invited to give a lecture at the Ministry of Heavy Industry in the U.S.S.R. and it was there that he engaged Bukharin, who explained to him that "owing to the complete internal harmony of Socialist society [scientists] would inevitably be led to lines of research that would benefit the current Five Years' Plan" (1939, p. 3). The claims advanced by the social relations of science movement and of Marxists-Leninists like Bukharin ran profoundly counter to Polanyi's liberal sensibilities. Perhaps equally, his experiences as a researcher within the highest echelons of the scientific community anchored his conviction that science could not in fact be "planned" and that the freedom of scientists to

autonomously pursue research was crucial for the continued growth of knowledge. For Polanyi, the pursuit of fundamental or pure science to “find truth for its own sake” (1939, p. 2) cannot be planned or directed.¹⁰

2.2. Polanyi’s reaction

By the late 1930s, Polanyi’s interests had shifted from his research in physical chemistry to the defense of unencumbered science and to the defeat of attempts to centrally plan and direct science.¹¹ In the course of explicating why central planning would be a disaster for science, Polanyi provided a conception of science as a spontaneous social order. In a series of important works, he presented an account of science as an emergent adaptive order but one necessarily wedded to tacitly-held liberal values and constraints and supported, at least in part, by public funding. Also relevant to note is that Polanyi believed his argument against central planning in science (as well as the economy in general) required a philosophy of science rooted in “tacit knowledge”, a position which led him away from social theory toward an increased concern with epistemology.

It is also important to highlight that he was first and foremost a scientist whose principal formative activities and experiences occurred in the premier scientific institutes and research centers in Germany and Britain. Unlike some commentators on science and the philosophy of science, Polanyi was immersed in the on-going practice of actual front-line research within top echelon research communities. These experiences as to what scientific research is really like render his views on how science works more than merely armchair reconstructions.

2.3. Science as a coordinating dynamic order

The principal features of Polanyi’s understanding of science refer to the social communities in which scientists participate. While the relevant operative unit within such communities is the individual scientist, science is for Polanyi fundamentally a cooperative and coordinative undertaking among scientists having the capacity to generate knowledge. It is through overlapping spheres of personal expertise that scientists are enabled to advance knowledge according to the standards and procedures developed within their respective communities. Polanyi (1962, p. 54) argued that in the absence of ongoing interactions among scientists, whether in the daily encounters of fellow laboratory or institute colleagues or indirectly via the exchange of scientific papers, scientists would soon exhaust “developing problems ... of

any value” and as a result “scientific progress would come to a standstill”.

Polanyi conceived of science as a process of mutual adjustment among scientists. If a scientist has free reign over his research, including the selection of problems to pursue, “his task is to discover the opportunities in the given state of science for the most successful applications of his own talents and to devote himself to the exploitation of these openings” (1945, p. 142). These choices, Polanyi told us, are essentially driven by educated guesses about useful ways to proceed based on scientists “constantly collecting, developing, and revising a set of half-conscious surmises” and “an assortment of private clues” (ibid). Yet, scientists are “in fact cooperating as members of a closely knit organization” by virtue of “the adjustment of the efforts of each to the hitherto achieved results of the others” (1967, p. 54). This “mutual adjustment of independent initiatives” represents a dynamic coordinating principle among scientists whereby the growth of knowledge is seen as a byproduct of the separate actions of individual scientists that “leads to a joint result which is unpremeditated by any of those who bring it about” (1967, p. 55). This adjustment and the cooperation among scientists that it reflects can only proceed, Polanyi explained, in a step-wise fashion as advances are made on the basis of previous results in the “discovery of a hidden system of things” (ibid). Whatever advances are forthcoming are derived from the considered judgments made by scientists as to which problems to pursue. Thus, the discovery of knowledge will take on contours that are determined by the process itself and is unknowable in advance. The growth of knowledge, according to Polanyi, is a byproduct of the mutual adjustments that scientists make that could not have been predicted or been made to follow a blueprint.¹² That is, scientific knowledge is advanced by the process itself of scientists adjusting their research efforts to previous results and the discovery of such knowledge cannot be divorced from that process.¹³

For Polanyi (1945, p. 143), scientific research must occur within a social context; each scientist, he argued, “cannot practice his calling in isolation” but “must occupy a definite position within the framework of institutions” in which he “belongs to a particular group of specialized scientists”. He saw this social context and its attendant institutions as fundamental to the advancement of science:

The opinion of this community exercises a profound influence on the course of every individual investigation. Broadly speaking, while the choice of subjects and the actual conduct of research is entirely the re-

sponsibility of the individual scientists, the recognition of claims to discoveries is under the jurisdiction of scientific opinion expressed by scientists as a body. Scientific exercises its power largely informally but partly also by the use of an organized machinery (ibid).

Polanyi argued that the standards within which scientists operate are indigenous to the scientific community and embody a development over many years that largely emerged from within the scientific community itself. These standards and the institutions that instantiate them, he held, are suitably geared toward maintaining the critical stance of modern science and its methods in its “search for truth set by the examples of Galileo and his contemporaries” (1945, p. 144). Polanyi highlighted the role of specialized journals and the gatekeeper functions of editors and referees in determining the cogency of manuscripts and their usefulness for other researchers. Together with the advisory role played by senior or eminent specialists, certain promising research questions are encouraged while others are discouraged. This also applies, Polanyi observed, to the dispensing of funding and subsidies for laboratories and other facilities, awards of distinction, the creation of endowed chairs, and prizes.

For Polanyi, a critical function of the scientific community is to cultivate the “art of making certain kinds of discoveries ... by transmitting and developing the tradition of its practice” (1945, p. 145). He saw modern science functioning as a spontaneous order and as a social structure that has endogenously generated the conventions, routines, and rules consistent with its ability to generate scientific knowledge.¹⁴ Yet, he averred, science requires support from the general public if it is to sustain itself. “This response is indispensable to science,” he said, “and needs to be exercised in the form of funding for research expenses and to educate and train new scientists” (ibid). Polanyi, like many other leading scientists of his time, was a recipient of financial support from large industrial firms; yet, he took for granted that the modern scale of scientific research could only be maintained by public provision of financial resources in science over and above those provided by the private sector.¹⁵

2.4. The recognition of other dynamic orders

Several commentators on Polanyi have seen his analysis of science as yet another application of the economic theory extolling the virtues of unhampered markets.¹⁶ It is true that his exposure to economics and his interest in the economic issues of his day was ongoing from his early years and continued into his later life. It also bears mentioning that he ac-

tively propagated the message of Keynes’s *General Theory* by making short films and publishing articles and monographs on economics. And in his articles on science Polanyi often invoked economic terminology and alluded to similarities between the market order and science, as is clearly seen, for example, in his “Republic of Science” (1962). However, there is no doubt that he neither confused nor conflated the market order with the scientific order. In “The Growth of Thought in Society” (1941) he distinguished three separate “dynamic orders”—the market order, the common law, and science. Each of these treat different aspects of the social realm, deal with different problems, and exhibit different structural manifestations and functional mechanisms. Yet, they all are similar in that they are social phenomena that display the attributes of complex adaptive systems or spontaneous orders.

Noting the structural similarities of these different dynamic orders does not preclude recognizing important differences between them. Polanyi was at pains to identify such differences for science in terms of the necessary and broader framework that underpins science. This was an important insight—it enjoins social scientists to refrain from migrating analytical propositions from one context where they have validity to another context where they do not. In particular, thinking of science in the same sense as we think about markets presents serious pitfalls because the institutions germane to each of these systems are very different.¹⁷

2.5. Liberty, private and public

The freedom of scientists to freely choose and pursue questions and problems is central to Polanyi’s vision of science. It is precisely this freedom that gives teeth to science as a dynamic order and which makes possible the growth of knowledge by means, as he put it, of the “mutual adjustment of initiatives” within the community of scientists. Polanyi claimed that without this freedom the advancement of science would come to a standstill because the predetermination of lines of inquiry by directives from a central planning board is incompatible with scientific research that seeks to discover knowledge. For Polanyi, science is a process of discovery and scientists adapt their research efforts to the ongoing discovery of new knowledge and the attendant questions and directions that discovery puts into motion.

Polanyi, however, noted that the freedom of scientists to pursue research in the absence of constraints is not strictly absolute. Consider the governing role played by scientific communities in establishing standards and conferring legitimacy on what individual scientists do. Within any com-

munity, we would expect internally generated constraints to emerge if the order is to be sustained and remain viable. Such provisions are not arbitrary or optional but ordinarily have been accepted through trial and error, or as marginal adjustments to the order, and have demonstrated a compatibility with the system's success while satisfying the aims of its participants. As such, the evolved internal constraints of the order which contribute to its success are not, per se, problematic. If they become so, Polanyi argues the community's participants would have the option to follow a different path and attract others to join in.¹⁸

Beyond such internally generated standards, Polanyi argued that the ideal of science is made possible by the framework of values provided by a conception of conservative liberalism closely aligned, for example, to Edmund Burke. Polanyi's conception of liberalism is based on a nexus of shared values among individuals who practice certain traditions. Liberty for Polanyi means adhering and submitting to these shared traditions by self-dedication and in the practice of transcendent moral ideals that are ends in and of themselves and not a means to anything else. Within this broader social context, he saw the emergence of spontaneously generated orders, such as science, made possible by generations of scientists committing themselves to transcendent ideals, such as truth-seeking,¹⁹ that supersede the values that motivate activities for personal gain and profit. According to Polanyi, transcendent ideals are necessarily contained and transmitted in the evolved traditions of science, serving as the bedrock upon which science must function. The "origin of the spontaneous coherence amongst scientists", he said, "arises because they are informed by the same tradition" (1946, p. 38). Absent these traditions, he argued, the ongoing viability and success of a dynamic scientific order is not possible:

It seems clear enough then that the self-governing institutions of science are effective in safeguarding the organized practice of science ... [but] their functions are mainly protective and regulative and are themselves based ... on the preexistence of a general harmony of views among scientists ... (1946, p. 36).

And,

Only if scientists remain loyal to scientific ideals rather than try to achieve success ... can they form a community which will uphold these ideals. ... The discipline required to regulate the activities of scientists

cannot be maintained by mere conformity to the demands of scientific opinion, but requires the support of moral conviction ... Scientists must feel under obligation, both in exercising authority and in submitting to that of their fellows, otherwise science must die. ... It would then appear that when the premises of science are held in common by the scientific community each must subscribe to them as by act of devotion. ... These premises ... are not merely indicative, but also normative. The tradition of science, it would seem, must be upheld as an unconditional demand if it is to be upheld at all (1946, p. 40).

Polanyi called the kind of freedom required for science "public liberty" and argued that it ought to be "upheld as an aim in itself". But this kind of liberty, which he differentiated from "private liberty", is not meant to insulate individuals from arbitrary incursions or to establish a protected domain within which each may freely function.²⁰ Rather, Polanyi saw public liberty in a "positive" sense, as a "kind of liberty that goes far beyond personal freedom" in that it calls for a "judgment of a higher order" and on that account warrants one's freedom "to act according to his own convictions" (1941, p. 438). Importantly, however, he claimed such privileges come with considerable duties and responsibilities necessitated by the devotion to practicing the ideals of science. These transcendent ideals are principally embodied in and secured by practiced traditions—traditions that are held tacitly by all members.

3. FRIEDRICH HAYEK AND THE SPONTANEOUS ORDER OF THE MARKET

3.1. The trend of Hayek's thinking

In 1933 Hayek delivered "The Trend of Economic Thinking" at the LSE. Although he reaffirmed economics as a theoretical science and chided the German Historical School, especially the second generation led by Schmoller, the more important theme may have been his discussion of spontaneous order and unintended effects, themes he saw as arising out of the Scottish Enlightenment in the work of Hume, Smith, and others. It was in this context that Hayek used Mises' *Socialism* in referring to society as an "organism and not an organization" (Hayek 1933, p. 27). His discussion of spontaneous order, however, was perhaps aligned most closely with Carl Menger's (1883) extended remarks on the subject in *Problems of Economics and Sociology*.²¹ But while "The Trend of Economic Thinking" and Hayek's ideas on

spontaneous order are sometimes linked to his rediscovery of Menger's work, there is evidence that ideas and questions relevant to spontaneous order had been lurking in the shadows since Hayek's student days and would continue to surface throughout his life. Such questions clearly emerge as an important part of his research agenda as he matured and as his interests turned increasingly toward issues in broader social theory and the various domains of social life we understand as spontaneous orders.

Although Hayek directed his efforts in the 1930s and 1940s largely to economics, his remarks in "The Trend of Economic Thinking" seem to signal a deepening interest in broader questions—an interest which would bear fruit in the appearance of his "knowledge papers" beginning with "Economics and Knowledge" (1937), then "The Use of Knowledge in Society" (1945), and also "The Meaning of Competition" (1946)—all of which address the functional attributes of a catallaxy as a spontaneous order.²² *The Pure Theory of Capital* (1941b) may be reckoned as Hayek's final work in theoretical economics, after which he decidedly shifted his interests to broader social theory and wide-ranging investigations in methodology, the philosophy of science, and notably a return to cognitive science. During this post-WW II period his diverse interests refer to questions about the nature and functioning of spontaneously organized complex social phenomena.

Ironically, Hayek's clearest treatment of organized complexity and emergent phenomena was not in the social arena but in *The Sensory Order* (TSO) published (1952a) as a far more up-to-date, detailed, and developed analysis of psychological concepts of a (1920) student paper. Here, cognitive activity occurs within a decentralized adaptive structure whose principal emergent output is a classification of qualities that the cognitive order constructs about the external world. This classification represents knowledge and conjectures upon which the individual acts and adjusts to perceived and anticipated circumstances.²³ This important monograph was generally neglected, and despite some spillovers in *The Counter-Revolution of Science* (1952b), only years later would Hayek state the broader significance of TSO (beyond that of a monograph in cognitive science) for his understanding of social theory.²⁴

3.2. Hayek's defense of the liberal order

During the 1930s and 1940s, it was Polanyi and not Hayek who relentlessly promoted the general concept of spontaneous order, specifically with respect to science. It was not until *The Constitution of Liberty* (TCL) in 1960 that Hayek

explicitly couched his restatement of the principles of the liberal order in terms of spontaneous order and evolution. At this time, Hayek was resigned to the fact of liberalism as an "abandoned road"²⁵ but still believed that, by systematically restating the "ideal of freedom" and expounding fundamental insights of liberal thought, the existing institutional framework could undergo reform to produce an environment conducive to the reemergence of liberal society (1960, p. 1). By 1973, when volume 1 of *Law, Legislation and Liberty* (LLL) was published, Hayek believed that the "traditional doctrine of liberal constitutionalism" (1973, p. 2) had not secured liberty and that liberal democratic institutions were the cause for the erosion of freedom. TCL approaches its task by working within a set of rules, as Buchanan might have said, whereas LLL is concerned about changing the rules or, in Hayek's words, a "problem of constitutional design" (1973, p. 4).

Despite these rather different agendas, Hayek, in both TCL and LLL, prominently featured the constraints imposed by "the knowledge problem" within an evolutionary context. In LLL, the evolutionary argument was couched in terms of the implications of contending philosophical positions—evolutionary rationalism and constructivist rationalism—for understanding the emergence, nature, and evolution of social orders. Hayek claimed that constructivist rationalism is demonstrably erroneous on scientific grounds because it is based on the untenable assumption that a planning board has the capacity to "assemble as a surveyable whole all the data which enter into the social order". He emphasized in both TCL and LLL that the "fact of irremediable ignorance of most of the particular facts which determine the processes of society is, however, the reason why most social institutions have taken the form they actually have" (1973, p. 13). Spontaneous orders, such as the catallaxy or grown law, he argued, are superior because they confer epistemic advantages to individuals in adjusting to new and unforeseen circumstances. Such advantages are closed to central planners because they must direct the actions of individuals toward specific ends solely on the knowledge available to a single voice. In a spontaneous order, on the other hand, individuals are free use "knowledge which nobody possesses as a whole" (1973, p. 49).²⁶

Hayek argued that achieving the benefits of spontaneous orders required rules of conduct regarding social interactions (e.g., rules of property and contract) and rules governing the relationship between individuals and government. Rules of conduct for Hayek are themselves often undesigned and, like traditions and conventions, are byproducts of an

evolutionary process. Yet, “it is this submission to undesignated rules and conventions whose significance and importance we largely do not understand, this reverence for the traditional, that ... is indispensable for the working of the free society” (1960, p. 63). The transmission of rules of conduct, including the nexus of traditions and habits, is driven according to Hayek by a selection and retention process via imitation and the weeding out of rules, habits, and traditions that yield poor results in terms of the advantages they confer. The selection mechanism functions at the societal level among groups with competing systems of rules; Hayek claimed that “better rules of conduct” (*ibid.*) will prevail by displacing inferior sets of rules and by sustaining larger populations.²⁷

In this way, Hayek identified a dynamic, evolutionary process of adaptation based on the epistemic consequences of alternative social arrangements and institutions, a viewpoint central to his broader social theory. But Hayek, like Polanyi, also sought to go beyond this scientific approach and defend the liberal order as a normative ideal. And these two perspectives are joined in his broader social theory in the claim that adherence to liberal principles tends to generate better outcomes.²⁸ Hayek, to his credit, attempted to defend his normative claims on scientific grounds centering on the superior epistemic properties of spontaneous orders. The liberal goal of freedom and the corresponding limitations placed on government, the rule of law, and a domain of individual autonomy protected from arbitrary incursions, were seen by Hayek as essential for the emergence of spontaneous orders and, hence, the generation of the epistemic advantages necessary for progress. Hayek grounded this argument on his work in economics with regard to the constraints implied by the division of knowledge and in so doing thereby elevated it to a generalizable social principle. But compared to the analytics of catallactic theory, Hayek’s broader social theory is less definitive in establishing exactly how arrangements promoting spontaneous orders are fully consistent with the liberal order.

3.3. Hayek on science as a spontaneous order

Hayek strongly sided with Polanyi in opposing the central planning of science, but his position seems to be derivative from his general rejection of central planning.²⁹ His discussions of science were embedded in works with that overriding theme—particularly the essay on “Planning, Science and Freedom” (1941a), *The Road to Serfdom* (1944, principally pp. 161-164 and pp. 189-193), and TCL (1960, ch. 24, Sections 7-10, pp. 388-394).³⁰ In those writings on science,

the principal arguments he advanced were the futility of trying to centrally plan scientific research (arguments which Polanyi had made in the early 1930s) and the dangers associated with government interference and political control over science.

Like Polanyi, Hayek understood science as a non-market social order, an order that extends the “boundaries of knowledge” upon which “the general intellectual life of a country chiefly depends” (Hayek 1960, pp. 388, 389). He highlighted the role of European universities in the 19th century in providing an environment centered principally on research. Noting that the growth of knowledge in science occurs “on the outskirts of knowledge” where there are “often no fixed objects or fields” in which the “decisive advances will frequently be due to the disregard of the conventional division of disciplines”, he argued (in agreement with Polanyi) that therefore the advance of knowledge requires that scientists have the academic freedom to pursue their science autonomously within the evolved conventions of science and unencumbered by “political interference”, especially given that “universities were generally state institutions”. Although specifically arguing against government interference, he was also suspicious of “unitary planning and direction of all research” under a committee of eminent university scientists. On that basis, Hayek explained that scientific freedom does not mean *carte blanche* for scientists but the freedom to pursue knowledge in “as many independent centers of work as possible”. While he argued that a “multiplicity of such institutions” might each be “subject to different outside pressures”, a decentralized and autonomous system of research institutions would be preferable to centralized planning (1960, p. 390).

But Hayek believed that a greater danger was “the increased control which the growing financial needs of research give to those who hold the purse strings” (1960, p. 392). Importantly, he argued that “the prospects of [scientific] advance would be most favorable if ... there were a multiplicity of independent sources” engaged in supporting scientific research, adding that “the multiplicity of private endowments interested in limited fields is one of the most promising features of the American situation” (1960, p. 393). He did not directly speak of government funding of science, suggesting that “As elsewhere, the preservation of freedom in the spheres of the mind and of the spirit will depend, in the long run, on the dispersal of the control of the material means and on the continued existence of individuals who are in a position to devote large funds to purposes which seem important to them” (1960, pp. 393-394).

4. PRESCRIPTIVISM AND INTERVENTIONISM IN POLANYI AND HAYEK

4.1. Their respective contributions

Our discussion of Polanyi and Hayek has highlighted their path-breaking contributions to the theory of spontaneous orders. Polanyi was instrumental during the 1930s and afterward in stating the theoretical case against central planning of science and also in documenting the effects of central planning on science as practiced in the Soviet Union. He published “Rights and Duties” in 1939, and in a series of writings discussed in detail how a particular spontaneous order, that of science, functions.

Hayek’s prominent role in the socialist calculation debate and the argument against central planning in general during the 1930s provided common cause with Polanyi. In Hayek’s Inaugural Lecture at LSE he, albeit somewhat tentatively, rehabilitated the idea of spontaneous order with a restatement of Menger’s principal points in Book Three of his 1883 monograph.³¹ While Polanyi pushed ahead with his critique of central planning in science during the 1930s and 1940s, Hayek did something similar in his economics,³² but more obliquely, as seen in his “knowledge papers”. But much of his post-WW II work, especially TCL and LLL, can be seen in terms of an ongoing research agenda that drew deeply on spontaneous order and evolutionary elements.

The issues we raise here do not detract from the contributions of Polanyi and Hayek; rather, we see their analyses as not going far enough in developing the theoretical analysis of complex adaptive systems in general and especially that of spontaneous orders in the social realm.

4.2. The introduction of normative criteria

Both Polanyi and Hayek, in defending the autonomy of market and science, found it necessary to cast their analyses in the context of broader social theory.³³ In so doing, issues concerning the justification of unhampered market and science were couched by them in terms of their conceptions of liberalism. While their scientific arguments against central planning are cogent, locating their analyses within a broader social theory required reliance on increasingly more normative claims and criteria that supervene on particular spontaneous orders.³⁴

Polanyi (1964, chapter II; 1962) argued that maintaining a well-functioning spontaneous order, such as science, requires communities in which authority is vested in various institutional structures. These include journal editors

and scientists who have secured sway among colleagues and peers. Polanyi is keenly aware that these provide the essential feedback for self-corrective science; yet, he sees these also as necessary disciplinary mechanisms serving a higher good: the preservation of transcendent scientific ideals.³⁵ In this way, Polanyi’s approach to science as a spontaneous order—an approach crucially based on the primacy of and requirement for transcendent and tacitly held ideals—introduces unnecessary normative criteria which mar his analysis.

We see this in Polanyi’s distinction between “private” and “public” liberty, a notion reflecting no doubt the culture of pure science as he experienced it, but one which adds a complicating layer of normative claims to the analysis. Importantly, Polanyi believed “public liberty” required—in a prescriptive sense—that scientists adhere to certain duties in implementing transcendent ideals, such as a commitment to truth, and in accepting the evolved standards and traditions of science embedded in existing institutions. Such ideals for Polanyi function much like a “Constitution of Science” in prescribing certain values and practices scientists must hold and submit to, even if that means intrusive constraints on an individual’s otherwise noncoercive actions.

Polanyi claimed that scientists’ commitment to the pursuit of truth is among the enabling transcendent values required for science. While this motive, indeed, may apply to scientists, we dispute whether it is a necessary condition for the growth of knowledge on the grounds that it is the procedures of science that are determinative in establishing scientific knowledge and that such knowledge is an emergent *system-level* property of the scientific order. The psychological motives of scientists, including their understandings of what truth is and their sincerity in pursuing truth, are independent of the growth of knowledge because it is the “inter-subjective error-correcting network” of scientists that “subjects theories to empirical testing and potential refutation” (Harper 2016).³⁶ What matters are the critical procedures³⁷ deployed by the community of scientists that ignore, reject, or tentatively accept knowledge claims, and not the noble psychological intentions of scientists.

Polanyi is led to favor a proactive stance to preserve the ideals and traditions by which they are transmitted. But this represents a failure to appreciate fully the ordering capabilities of the spontaneous orders he himself has done so much to elucidate. Polanyi emphasized the role of tutoring, textbooks, training, working in labs, and the role of editors in publishing research, and these transactions, executed repeatedly under the feedback from previous transactions, would be expected to produce (and have in fact produced) inter-

nally not only an emergent “ordering” of scientists based on their scientific accomplishments and reputations but also various enforcement mechanisms. Contra Polanyi, science’s “constitution” can be seen as an emergent byproduct of the functioning of the scientific order; rigidly specifying these institutions as normative preconditions of science is a typical constructivist mistake.

Hayek also populates his positive analysis of spontaneous order with normative criteria. He claimed on the one hand that “it is this submission to undesigned rules and conventions whose significance and importance we largely do not understand, this reverence for the traditional, that ... is indispensable for the working of the free society” (1960, p. 63), but on the other hand (perhaps more tellingly) he also raised the problem of spontaneous order “dead ends”—outcomes that he deemed to be inconsistent with normative criteria endemic to liberalism. In the context of a discussion of Western law and its spontaneous origin in the customary law of England, Hayek (1973, ch. 4) contended that “the spontaneous process of growth may lead into an impasse from which it cannot extricate itself by its own forces or which it will at least not correct itself quickly enough”, which “therefore does not mean that we can altogether dispense with legislation” (1973, p. 88). His particular reason for this conclusion was his concern that the application of the doctrine of *stare decisis* binds a judge to uphold precedent “although he may clearly recognize that another rule would be better, or more just” (1973, pp. 88-89). But Hayek is confusing modern common law, where the judge is the central actor in interpreting precedent while being cognizant of the downstream societal consequences of his ruling, with pre-19th century common law and the customary law which preceded it. As Hasnas (2005) points out, the spontaneously evolved “law of liberty” which Hayek was trying to describe was in fact a system in which the case decisions of juries³⁸ were not strongly constrained by precedent, would tend to depart from it in the interest of present justice, and were concerned only with the justice of the decision at hand and not its presumed future social impact. Modern common law, on the other hand, is the older customary and common law blanketed with constructivist arrangements which have produced the “dead ends” that Hayek was rightly concerned about. If Hayek had had a clearer grasp of the history of the common law he could not have applied his critique to the actual “grown law” and, by implication, to spontaneous orders in general.

In defense of Hayek, Morison (2007a, p. 212)³⁹ claims that “Hayek’s purpose was to persuade his readers of the moral

imperative of reinvigorating the normative political ideals of classical liberalism”, for the purpose of (ibid) “maximizing individual liberty within the rule of law”. In a manner very reminiscent of Polanyi’s insistence on the necessity for the adherence to transcendent values for free science, Hayek himself (1973, p. 56) claimed that, in the process of making law, “if the separate steps are not guided by a body of coherent principles, the outcome is likely to be a suppression of individual freedom”. Hence, he is willing to countenance the intervention of judges as a means to ensure adherence to classical liberal ideals. While Hayek might be right that “judge-made” law is preferable in this regard to legislation, his argument begs the question of whether either is preferable to a spontaneous system of customary law.

Hayek’s reservations about fully spontaneous orders are also found in explicit discussions that attempt to describe the relevant boundaries between legislative design and the market order consistent with liberal principles, particularly that of the rule of law and its three criteria for legislation: “true laws” must be “general, abstract rules”, “must be known and certain”, and must be enforced equally to all (Hayek 1960, pp. 208-209). These criteria in Hayek’s hands clear a large swath for possible government actions. Hayek’s resolution of the boundary lines was to evaluate government actions based on his conception of the liberal order, and that allowed him to deflect his attention away from the analysis of spontaneous order and toward policy issues. Our criticism is not with that direction nor the policy positions that Hayek endorses; our concern is that to secure his normative ends directly he cuts short the budding analysis of spontaneous orders.⁴⁰

That predisposition can be seen in his Introduction to *Collectivist Economic Planning* (1935) and continuing with remarks in the *The Road to Serfdom* (1944) claiming that *laissez faire* “is a highly ambiguous and misleading description of the principles upon which a liberal policy is based” (p. 81).⁴¹ Hayek would later develop this theme in greater detail in TCL and LLL in claiming:

The range and variety of government action that is, in principle, reconcilable, with a free system is thus considerable. The old formulae of *laissez-faire* ... do not provide us with an adequate criterion for distinguishing between what is and is not admissible in a free system. There is ample scope for experimentation and improvement within that permanent legal framework to operate most efficiently. ... But the continuous growth of wealth and technological knowledge which such a system makes possible will constantly suggest

new ways in which government might render services to its citizens and bring such possibilities within the range of the practicable (Hayek 1960, p. 231).

Hayek sanctions several kinds of particular measures of government that refer to the provision of collective goods that are “clearly desirable but which will not be provided by competitive enterprise” (Hayek 1960, p. 223).⁴² Such services rendered by government must also be evaluated, Hayek emphasizes, on the basis of expedience and net benefits, and, just as importantly, he rejects artificial barriers being erected to maintain the government monopoly. So, while the scope for government activity is large in principle for Hayek, he also includes provisos that as a practical matter clearly constrain such activities. But the result is that, in the hope of coming to closure on the relation between the spontaneous order of the market and deliberate legislative design, we are swept into an ambiguous and muddled realm anchored in normative beliefs and lacking an analysis of the extent to which past interventions have contributed to the perceived need for current government activity—in short, an approach which prematurely closes the path toward a fuller understanding of spontaneous orders.

Both Polanyi and Hayek, in their different ways, allowed certain normative claims to inform their analyses of spontaneous orders and in doing so both come to advocate inroads by which spontaneous orders should be subject to government intervention and remediation. It is our contention that, in both cases, the introduction of normative considerations was not only unnecessary but also undercut the theory of spontaneous order, leaving it open to misunderstanding and confusion.

4.3. The question of science funding

There is a second issue, relevant to spontaneous orders such as science that require external funding institutions, that evidences a lack of full appreciation of the ordering capabilities of unhampered arrangements. Here again, with respect to the problem of science funding, Polanyi endorses a clear-cut position while Hayek’s is more difficult to pin down. But both Polanyi and Hayek emphasized that scientists themselves were unlikely to have the resources to fund pure research and hence believed, reasonably enough, that science required external funding. As was common in their age (largely before WW II), research scientists were ordinarily affiliated with research universities and supported by them via funding from government and its research institutes.

In addition, as Polanyi unabashedly mentioned, scientists also received extensive funding from private enterprises who saw some commercial gain from pure and applied research. In the heated days of Polanyi’s critique of central planning, the main question was to preserve the autonomy (or freedom) of science from its destruction by central planning. The question of financing science was assumed to be a public responsibility that could be supplemented by private sources. Most importantly, the matter of financing science was not at issue in the debate in Britain waged by Polanyi and John Baker over centrally planned science versus the autonomy of science. Although their efforts with the Society for Freedom in Science won the day in 1946, that resolution presumed that scientific research would be largely funded by government and, in effect, determined within the political sphere. Polanyi’s singular interest was to preserve freedom in science and he did not consider the source of funding problematic.⁴³

Hayek’s discussion of the funding of science emphasizes concerns that are somewhat different from Polanyi’s. In TCL, he does not directly advocate government funding of science but speaks instead to the virtues of many decentralized sources and private endowments, as noted above. He also notes that public funding of science provides a channel for political control over science. That said, the overall tenor of TCL, in which he essentially denies the usefulness of what he had earlier (1944, p. 17) called a “wooden insistence on laissez-faire”, might lead us to suggest that Hayek would be receptive to *some* public funding of science. It is not clear if this possible ambiguity in Hayek’s thinking can be resolved. However, neither Polanyi nor Hayek attribute to science the neoclassical claim of market failure. The justification for public funding of science by Polanyi and possibly for Hayek rests more on ensuring the preservation of free science than on solving a presumed market failure.⁴⁴

All the same, that justification does not take into account the many issues surrounding government or centralized funding regimes.⁴⁵ As Hayek was well aware, centralized funding provides for the application of external intervention and control, and anyone with the power to intervene occasionally is apt to get around to intervening frequently, and not necessarily from disinterested motives.

5. BEYOND SPONTANEOUS ORDER

5.1. Wherein lies the problem

The broader social theory which Polanyi and Hayek have left us, while greatly deepening our understanding of such systems as market and science in a most fertile way, has two

major flaws which we see as impediments to progress. It is obvious enough that both market and science, as systems of social interaction, have been successful in lifting mankind out of a subsistence existence and opening up knowledge of a vast and interesting cosmos.⁴⁶ While the catallactic theory of markets provides deep insights concerning the way markets work, our understanding of why science and also markets have been so successful has often been elusive and contentious. In particular, it is neither good enough to say that they are successful because they have evolved spontaneously nor that they are desirable arrangements because they have survived. Other major systems of social interaction, such as modern governance and law, while their beginnings may indeed have had considerable elements of rational design, have evolved spontaneously and, by the criterion of survival, have been immensely successful arrangements.

Despite their achievements, Polanyi and Hayek did not provide a fully worked out explanation for the obvious success of the spontaneous orders with which they were concerned. Instead, they both fell back on normative considerations—the desirability of scientific and economic freedom and classical liberalism—to bolster their broader social theory. This is the first problem. And, since they could not point to internal mechanisms by which their ideals could be attained, the second flaw followed—they both, Polanyi in the case of science and Hayek in the case of law and other “collective goods”, countenanced coercive interventions to ensure that the results they approved of would obtain.

Our critique of Polanyi and Hayek is that, by introducing normative elements into their broader social theory, they short-circuited the positive analysis of emergent social systems as objects of scientific study. Contrast this with the success of economics as a value-free branch of knowledge: while there are normative elements in economics, such elements are for the most part independent of economic theory and typically enter as implications of positive analysis. But since social orders function in a context of various rules and practices, it is clear that normative issues inevitably will arise—after all, social science does not study inert physical phenomena like protons or chemical reactions. The importance of how we go about understanding or, if necessary, remediating such issues is critical in the social realm and as a practical matter important normative issues will inexorably tend to command considerable attention. However, there is a time and place for such considerations. We hold that, in studying social systems, normative claims most usefully follow after the positive analysis has been pushed as far as possible. We do not contest the normative turn by Polanyi and

Hayek; we simply argue that it has muddied the waters at the expense of further positive analysis. And we claim that the theory of adaptive systems provides the context for this further positive analysis, particularly with relation to the implications for stability and adaptability in the structural characteristics of such systems.

It is often stated that markets work uniquely well to coordinate behavior in a societally beneficial way because markets alone possess a price system.⁴⁷ But this doesn't get to the heart of the matter—the price system is indeed crucial in markets in that it is the vehicle through which the feedback effects of prior transactions act on current and contemplated ones. Yet it is, in turn, an emergent effect of those transactions and therefore depends on the ways in which those transactions interact within the market context. At the most general level, what is crucial is not the specific ability to form prices but the ability to generate feedback effects which constrain self-interest while at the same time encouraging innovation and growth. There are no prices generated within science, and yet there is coordination of behavior in a societally beneficial way because the feedback effects from the transactions of publication and citation on scientific reputation both constrain scientists in their departures from conventional wisdom and encourage competent creativity. It is the structure of the system that matters and the capability of that structure to adapt to changes in external environment and to grow in a stable manner which is sustainable in the long term. Attention to the structural characteristics of systems not only provides an analysis of how the effects of the intra-system transactions work to generate the observed emergent systemic properties but also how the system as a whole might react to particular external influences applied to it. And, most importantly, it can provide a firm basis for comparative systems analysis aimed at eliminating normative criteria.

5.2. Adaptive systems theory

In the years since Polanyi and Hayek made the concept of spontaneous order a respectable and interesting one in social theory, “systems thinking”, often under the rubric of “complex adaptive systems”, has had a growing influence on social theory.⁴⁸ Treatments of economies and other social arrangements as adaptive systems with emergent properties have been published in complexity theory, sociology, and law—see, for example, Kauffman (1993, pp. 395-402)⁴⁹, Buckley (1998), Elder-Vass (2010), and Ruhl (2008). In economics, the number of papers dealing with complex systems, emergence, and agent-based modeling is growing fast with acces-

sible works by Krugman (1995), Tesfatsion (2006), Kirman (2011), Arthur (2015), and many others.⁵⁰ For our purposes here it is sufficient to skim over the details of this literature and to state some generalizations about the characteristics of the adaptive systems of market and science⁵¹ in order to illustrate the aspects of the transactions within the systems that contribute to stability and growth and also to provide a basis for comparative systems analysis.⁵²

Such systems have several salient features. Nowhere in the descriptions of them do you find a controlling authority identified, because power is distributed across the population of participants. They explicitly cater to the self-interest of all of the participants—not in the sense of providing a free lunch, but in competition for scarce benefits. They exhibit observable side-effects stabilized by negative feedback, and this stabilization is not such as to preclude variation of the side-effects in response to environmental changes. These relatively stable side-effects provide not only general and non-discriminatory benefits (even to nonparticipants) but also the incentive for a positive feedback effect on entry of new individuals into the system. Finally, and very importantly, they allow voluntary “exit” at all levels, from entrepreneurial deviation from local rules to a decision to cease participation in the system as a whole, as a mechanism for reaction and adaptation to changed circumstances or new ideas. In short, these systems are geared to grow and adapt, but in a stabilized manner.

It is worth emphasizing the importance for stable adaptation of the option for voluntary exit at all levels. Hayek himself (1960, pp. 62-63) said it very well:

It is this flexibility of voluntary rules which in the field of morals makes gradual evolution and spontaneous growth possible, which allows further experience to lead to modifications and improvements. Such an evolution is only possible with rules which are neither coercive nor deliberately imposed. ... The existence of individuals and groups simultaneously observing partially different rules provides the opportunity for selection of the most effective ones.

And, we would add, it is a real solution to Hayek’s problem of the “dead end”, which encompasses considerations of “dead ends” from both external environment changes rendering spontaneously adopted procedures problematic and interventions which compromise the operation of spontaneously adopted procedures. Hayek’s (1973, p. 100) own solution (in the context of law) of the occasional interven-

tion of a legislator, and Polanyi’s tolerance in certain cases for prescriptive adherence of scientists to certain practices as if one could apply constitutional rules to science, both resort to interventionist means to shore up against perceived problems in spontaneous orders without consideration of the side-effects of the externally imposed constraints and interventions. But both constitutional and legislative rules, no matter how well-intentioned and how generally they apply, have two major conceptual defects: (1) they are static, one-size-fits-all, and in varying degrees not easily adjusted to perform well in local conditions, and (2) they are the product of the knowledge possessed by the individuals or small groups that design them and do not deploy the adapting systemic knowledge generated within the system in which they are intended to apply.

On the other hand, the working of voluntary exit is obvious in the normal procedures of science, a system which is notable for its ability to remain intact even while accommodating shifts in foundational theory—the generation of new scientific knowledge requires this. While the underlying procedures and conventions of what it means to do science are generally widely accepted and followed by practitioners, the content of scientific knowledge and its methodological norms and theoretical concepts are always up for grabs and in flux. In science, individuals have the opportunity to convince other scientists that a better theory or way of seeing reality is available and that the existing explanation is false or incomplete and must be discarded. Similarly, the opportunity for voluntary exit is also vital in market interactions, being at the heart of a wide range of adaptive activity, from the creative destruction of entrepreneurial innovation to the purging of bankrupt firms. When we turn to other areas of social order like law, for example, the exit option that we see in markets and science seems just as applicable there. Allowing individuals to adopt a different set of rules while not requiring others to do likewise and not inhibiting the free movement of individuals into other jurisdictions are conditions that are basically the analogs to the exit option that operate in science and market. Where normal procedures of remediation are inadequate, the availability of voluntary exit may either literally purge the base of support for the offending rule or induce an exodus of individuals to a more hospitable jurisdiction.

This is not to say that real-world adaptive systems, including real-world markets and science, perfectly fit such an idealized pattern as we have described here. The point is, rather, that the characteristics highlighted are ones that provide for stabilized growth, and that it may be fruitful to concentrate

on these aspects in assessing the functioning of existing systems. The presumed criterion of the capability for stabilized growth—for both adaptability in the face of external change and ability to attract participation—while obviously in need of far greater elaboration than is possible here, is neither ill-defined to the point of meaninglessness (as is, for example a maximum welfare criterion) nor fraught with contested value judgements (as is, for example, an individual freedom criterion). The idea is simple: if you want systems of social interaction that can survive, adapt, and grow stably on their own merits, then these are the sorts of good characteristics for them to have. If actually existing systems lack one or more of them, or depart from them to a significant degree, then problematic trends can be predicted.⁵³

5.3. Comparative structural analysis.

Rules (more particularly, the transaction routines that embody them) have to be judged in the context of the entire system: bad rules contribute to systemic maladaptation and stasis or eventual shrinkage, good rules to adaptation and stable long-term growth. The question becomes, then, what general structural characteristics of adaptive systems would enable such systems to attract and keep the participation of individual members, to adapt to changes in their environment without widespread systemic disruption, and to sustain growth within the bounds of the resources available. The following list of stabilized growth characteristics expands on the summary given above. They are still rather abstract specifications, but ones that are clearly operative⁵⁴ in the major societal systems of market and science:⁵⁵

1. Most obviously, there is no mechanism of central control. Such power as is available within the system to effect change is widely distributed, and to the extent that there is power to gain access to resources within the system it is earned by successful performance in adherence to the prevailing system norms.
2. The normal transactions within the system are compatible with, and supportive of, the pursuit of happiness of the individuals in the system. By no means is every transaction *ex post* successful in this regard for an individual, but there is a reasonable expectation that, with participation, desires can be satisfied.
3. The constraints on behavior which the system transactions implement are fair, i.e., they apply generally. This removes a source of internal disruption and defaulting

because of injustice and envy. The generality of application also applies to the norms of the system typically invoked in responding to default.

4. The repetition of the system's transactions produces emergent effects which represent a "good enough" picture, i.e., knowledge, of relevant aspects of the system's environment in a form that is perceptible to the individuals in the system. This is the source of short-term adaptability of the system. It is useful information to the system participants, and is stabilized within the system by negative feedback to participants attempting transactions which are not compatible with it.
5. The repetition of the system's transactions may also produce effects within the system beneficial to many or most of the system's participants—and also to individuals not participating in the system—independently of action on their part, i.e., there are positive externalities.
6. The internal structure of the system is, to some extent, mutable in that it is open to bottom-up, entrepreneurially-induced change. There is the ability to voluntarily deviate from established norms, procedures, and transaction modes, or indeed to secede from the system as a whole. As with any entrepreneurial action, there may be negative consequences to be borne, but the choice is voluntary. This is the source of long-term adaptability, in which the system itself evolves.

We present these criteria not as "transcendent values" which need to be implemented and enforced, but simply as features of an idealized complex social system which would be effective in promoting stabilized growth, and therefore as a possible means for comparing different social arrangements, theoretical and actual.⁵⁶ It is not suggested that real-world social arrangements fully meet these criteria, although the actual arrangements of modern science do come close, as do those of markets in cases where outside interference is absent. We note, however, that most of the more specific criteria listed in Ostrom (1990, p. 90) which summarize the characteristics of long-lasting common pool resource institutions are very compatible with the list given here. We believe that it is work like this, focusing on the structural characteristics of complex social systems, which provides a way forward in the study of spontaneous order—a way that has empirical basis in actual systems, provides a theoretical

base for the comparative analysis of systems, and avoids reliance on normative presuppositions or ideals.

6. SUMMING UP

While Both Polanyi and Hayek employed the concept of spontaneous order to expose the unintended consequences of government control, neither put forward a fully internally consistent theory of the sorts of social arrangements implied by the characterization of spontaneous order. Polanyi not only favored prescriptive rules for science but also, in arguing that government funding would be helpful in enabling scientific research to proceed unhampered, seemed oblivious to the unintended effects that could arise from such funding. Hayek, influenced by both Polanyi and the “general systems” ideas of Bertalanffy, later tried to generalize the spontaneous order concept from markets to other social orders, but his use of the idea in the defense of classical liberalism introduced normative elements that betrayed the basic scientific thrust of his approach.

Notwithstanding these problems, our main conclusion is that it is possible to build on their work by casting it into the domain of complex adaptive systems. We believe there can be a fully positive and robust approach to the study of social order which advances the understanding of spontaneous order in general, allows for comparative systems analysis, and is grounded in generalizations from observable structures and characteristics of actual social systems.

Our specific criticism of Hayek and Polanyi is that they provide a useful theory of spontaneous order up to a point, but when they cannot see a way forward they introduce elements that do not follow from what they have already established. The need for intervention is introduced as a *deus ex machina*, a quick patch that comes without serious analysis, neither of the system which is the source of that intervention nor of the (perhaps unintended) downstream consequences of its application. And the invocation of normative ideals just muddies the analysis and offers an obvious target for disagreement and ideological dispute. This critique is not the same thing as a castigation of them for being insufficiently *laissez faire*—indeed, such a charge would be nothing more than the substitution of one normative ideal for another.

One point stands out clearly: if social science is going to seriously treat the interactions of different complex systems (science and government, for example) then a first step is to include in the analysis that government is indeed a complex system with its own characteristic structure, internal transaction types, and emergent effects. It is not good enough to

point to a possible defect in one system and assume that another system can be deployed at will to fix that defect—with government in the fixing role this is just the implicit invocation of the benevolent dictator model.

Finally, if we may leave the domain of system analysis and advocate for general methodological principles, we think, first, that an important and often overlooked requirement for the execution of studies of social phenomena is to approach them from a positive standpoint and to refrain, as best one can, from introducing normative elements. There is no doubt that positive analysis of social phenomena will often carry normative implications; however, we believe the default position should always be to push the positive analysis forward at every opportunity. And second, while it is abundantly clear, as Wagner (2016) explains in detail, that in the real world we are confronted with social systems that are deeply “entangled”; we believe that it is necessary as a prelude to understanding the nature of the entanglements and their ramifications that we develop workable theoretical models of the operations of the systems in isolation so that there is a basis on which to introduce, in a manageable fashion, the inter-system interactions that constitute the entanglements. Abstraction of this sort is our best hope for coping with the complexity of the social world.⁵⁷

NOTES

- 1 Polanyi used the term “dynamic order” to refer to arrangements observed in physical, biological, psychological, and social realms that spontaneously emerged from mutual adjustment between the relevant elements stemming from free interactions, contrasting this form of ordering with deliberately “planned order”. See Polanyi (1941, p. 431 *et seq.*). Hayek (1937; 1945) employed a very similar idea in an economic context in contrasting central planning with the localized planning that involves the “spontaneous interaction” of people possessing only “divided knowledge”, i.e., “the knowledge of the particular circumstances of time and place”. Hayek (1960, pp. 159-161), quoting Polanyi, is even more explicit, and there he deploys the term “spontaneous order”.
- 2 The investigation of the background of the term “spontaneous order” is an area of some controversy. For documentation of Röpke’s terminological priority, see Bladel (2005), who quotes Röpke (1937, pp. 4-5).

- Earlier, Jacobs (1998; 1999) had argued for the priority of Polanyi (1948), and before that Hamowy (1987) gave Hayek (1960) the credit. But see Hayek (1955, p. 30) in which he credits Polanyi (1951, p. 114 *et seq.* & p. 154 *et seq.*) for employing the phrase “spontaneous formation of a polycentric order”. For a comprehensive treatment of the issue, see D’Amico (2015).
- 3 See Mandeville (1714, pp. 68-69), Ferguson (1767, p. 187), Hume (1740, pp. 490, 529, 579), Smith (1776, pp. 24-32, 484-485), and Menger (1870, pp. 257-285; 1883, 139-159, 223-234). See Barry (1982), Hamowy (1987), and Ames (1989) for detailed histories.
 - 4 See Woodger (1929), Weiss (1925), and Bertalanffy (1928). For short biographies and a detailed exposition of the intellectual connections between these biologists and their contemporaries and predecessors, see Drack *et al.* (2007). For Gestalt psychology’s influence on Hayek, see De Vecchi (2003) and Lewis (2016a). See also Bertalanffy (1950), Weiss (1977), Weckowicz (2000), and Lewis (2016a; 2016b).
 - 5 See Köhler (1930) for a full exposition of Gestalt theory. For a discussion of Wundt’s influence on Hayek as early as 1920, see Lewis (2016a). For Kohler’s influence on Polanyi, see Mullins (2010). See also Drack *et al.* (2007) for documentation of the exchange of ideas between the Gestalt psychologists and the organicist biologists, particularly Bertalanffy.
 - 6 Although Polanyi and Hayek did not meet until 1938 when both attended Walter Lippmann’s Le Colloque in Paris, their intellectual positions were not in full agreement but compatible in broad-brush terms. Both were consciously incorporating the idea of spontaneous order into their theorizing, both employed it in their opposition to the calls for central planning (whether of science or the economy), both read and commented on each other’s work, and both incorporated elements of the other’s work into their own. For an extended discussion of their interactions and intellectual cross-fertilization, see Howard (2008).
 - 7 Since our focus here is at the level of complex social systems (in line with Hayek and Polanyi) we see “spontaneous orders” as self-organizing social systems displaying properties emergent from the interactions of the people composing them and distinct from the properties of their components. We make no distinction between spontaneous order and emergent order, a distinction, as Harper and Endres (2012) show, is necessary at lower levels of organization.
 - 8 See Bernal (1939), especially ch. X “The Reorganization of Research”, ch. XII “The Finance of Science”, ch. XIII “The Strategy of Scientific Advance”. Bernal’s book contains several appendices that provide figures on university faculties, advanced students in science, university income and sources of funds, financing needs for scientific research, proposals for restructuring research, and policy platforms for the British Association of Scientific Workers. Of particular interest is Appendix VI “Note on Science in the U.S.S.R.,” written by M. Ruhemann, a former Research Director of the Physico-Technical Institute in Kharkov, U.S.S.R., which provides an uncritical account of Soviet science and its organization.
 - 9 Polanyi’s interest in social theory and philosophy and economics was evident even prior to his arrival in Manchester. Nye (2011, p. 155) notes that in 1930 Polanyi published his first economics article in a scholarly German journal, *Der deutsche Volkswirt*, in which he argued for the importance of pure science even though the benefits of fundamental research may not be apparent. As recounted in detail by Nye (ch. 5), Polanyi had by 1928, when he visited the Soviet Union via an invitation by a colleague, exhibited an active interest in economics. Upon returning to Berlin after that trip, he began attending a seminar organized by Jacob Marschak, even delivering a paper on the Soviet economy. In early 1930 he organized his own study group for the purpose of bringing together scientists at the Institute with economists that included notables such as Leo Szilard, Marschak, John Von Neumann, and Gustav Stolper. He also continued to visit the Soviet Union in the early 1930s and, as Nye points out, witnessed the threat to fundamental research that Soviet central planning of science entailed.
 - 10 In addition, it is interesting to note Polanyi’s view that “applied science”—or what he called “practical knowledge”—is not science at all because it does not represent a “body of valid ideas” certified as such by the standards of the scientific community. Also see Polanyi (1941, p. 428).
 - 11 Mention must be made of John Baker, an Oxford University zoologist, and his critical role in defending science from central planning in England. In 1940, Baker and Polanyi created the Society for Freedom in Science to counter widespread calls from within the scientific community (and elsewhere) for centralized direction of science. Virtually singlehandedly, they thwarted

- the efforts to centrally plan science in the aftermath of WW II. See McGucken (1978) for a detailed discussion of the Society for Freedom in Science.
- 12 Polanyi's discussion is simultaneously also a critique of the attempt to centrally plan science since scientists (and, of course, the central planners) cannot know *a priori* what adjustments they should make in their research as new advances are discovered.
 - 13 For an exposition of the same idea in a market context, see Buchanan (1982).
 - 14 Note the commonality with Hayek's well-known claim that certain kinds of knowledge (in particular, the knowledge of availabilities, scarcities, and opportunities reflected in market prices) simply would not exist absent the market process.
 - 15 See Polanyi (1941, pp. 446-447). Also see Nye (2011, ch. 2) on Polanyi's support from the private sector. While taking public support and funding as a necessary given, Polanyi's (1962, p. 61) major concern is not the source but who controls the distribution: "It does not matter for this purpose whether the money comes from a public authority or from private sources, nor whether it is disbursed by a few sources or a large number of benefactors. So long as each allocation follows the guidance of scientific opinion, by giving preference to the most promising scientists and subjects, the distribution of grants will automatically yield the maximum advantage for the advancement of science as a whole."
 - 16 For example, see Mirowski (1999).
 - 17 Despite the economic terminology and comparisons Polanyi uses in several of his writings about science, perhaps most famously in "The Republic of Science" (1962), he was careful not to merge them. Polanyi (1941) and elsewhere distinguished among various kinds of spontaneous orders found in the social realm. He saw the market order organized around the pursuit of individual gain, while he saw science as a byproduct of values based on transcendent ideals and convictions. He did not see science as a market order and did not see the market order as the "archetype of spontaneous coordination" (Allen 1998, p. 156). In addition, Polanyi did not invoke the market failure argument regarding science; this also applies to Hayek. One of the most serious confluences of economics and science concerns the economic theory of public goods in which the outputs of science are commodified and available to all. From this, it is trivially correct to infer a market failure in science. See Butos and McQuade (2006) for a critique of these claims.
 - 18 In this way, the success of modern science has solidified around widely accepted standards as to what it means to do science. This, of course, only circumscribes the activity in terms of scientific procedures but does not predetermine outcomes those procedures uncover.
 - 19 While adherence to truth-seeking is the primary ideal, Polanyi (1945, p. 142) also cites the secondary norms of admiration for scientific "courage and reliability" and scorn for the "commonplace and fanciful". Such informal moral norms underlie science practice in much the same way as the norms of trust and promise-keeping underlie market practice. (We thank Paul Lewis for this insight.) But these secondary norms are distinct from those ideals that are *required* (1941, p. 438) to maintain science as a "dynamic order". Polanyi's scientist functions in the world of public liberty—freedom to do research but only by practicing the traditions of liberalism, a tradition that is learnt tacitly by practicing it. Polanyi, however, is quite vague on what exactly is "liberalism", as he sees it as revealing itself as is practiced. It is not a "protected domain" libertarianism nor even rule-utilitarianism, but it does bear an affinity to Hayek's conception of liberty in its stress on the importance of tradition.
 - 20 "Private liberty" is seen by Polanyi as "personal freedoms" that enable individuals to autonomously operate within a defined and protected sphere of activity in pursuit of private interests. In *The Logic of Liberty* he refers to private freedom as a "class of individualistic manifestations which do not contribute to any system of spontaneous order in society" (1951, p. 157). He goes on to note that "A free society is characterized by the range of public liberties through which individualism performs a social function, and not by the scope of socially ineffective personal liberties" (1951, p. 158). These "public liberties" lift and justify personal freedom and are preeminent by virtue of the underlying transcendent ideals these traditions support.
 - 21 Hayek does not cite Menger in "The Trend of Economic Thinking", although he was certainly familiar with Menger's 1883 monograph (see Menger 1883, bk. 3, ch. 1 & 2, pp. 127-159). Hayek published an essay on "Carl Menger" in *Economica* in 1934 that served as the "Introduction" to the four-volume *Collected Works of Carl Menger* edited by Hayek and published (in German) in 1934. His discussion of Menger's 1883

- book in the 1934 essay is revealing: “Probably it did more than any other single work to make clear the peculiar character of the scientific method in the social sciences”. Hayek then goes on to say, “But to me ... its main interest to the economist in our days seems to lie in the extraordinary insight into the nature of social phenomena. ... Discussions of somewhat obsolete views, as that of the organic ... interpretation of social phenomena, give him an opportunity for an elucidation of the origin and character of social institutions which might, with advantage, be read by present-day economists and sociologists” (Hayek 1992, p. 79).
- 22 For recent summaries of the trend of Hayek’s thinking beginning with the “knowledge papers”, see Caldwell (2014) and Lewis & Lewin (2015).
- 23 Several summaries of Hayek’s cognitive theories are available. See, for example, Weimer (1982), Yeager (1984), Steele (2007). Butos & McQuade (2015a) review the literature on Hayek’s cognitive theory.
- 24 In *Law, Legislation and Liberty*, v. 3, Hayek reflects on TSO as a work that “helped me greatly to clear my mind on much that is very relevant for social theory. My conception of evolution, of a spontaneous order and of the methods and limits of our endeavors to explain complex phenomena have been formed largely in the course of the work on that book” (Hayek, 1979, n. 26, p. 199).
- 25 “The Abandoned Road” is the title of Chapter 1 of *The Road to Serfdom* (Hayek 1944).
- 26 Also see, for example, Hayek (1960, p. 30) where he says “all institutions of freedom are adaptations to this fundamental fact of ignorance”.
- 27 In *The Fatal Conceit* (1988), Hayek contended that “the close connection between population size and the presence of, and benefits of, certain evolved practices, institutions, and forms of human interaction” implied “that socialism constitutes a threat to the present and future welfare of the human race, in the sense that neither socialism nor any other known substitute for the market order could sustain the current population of the world” (1988, pp. 120-121).
- 28 On Hayekian grounds, in the catallaxy the absence of particular ends governing the overall order and the impossibility of interpersonal utility comparisons render standard welfare economics irrelevant. Hayek’s own normative criterion turns on a coordination norm regarding the probability of a randomly selected individual achieving his ends (1978, p. 184). Later, Hayek (1988, p. 132) explicates this criterion in terms of sustaining population growth and emphasizes the process by which rules are selected that are compatible with that criterion: “Yet if the market economy did indeed prevail over other types of order because it enabled those groups that adopted its basic rules the better to multiply, then the calculation in market values is a calculation in terms of lives: individuals guided by this calculation did what most helped to increase their numbers, although this could hardly have been their intention.”
- 29 Polanyi, by contrast, parlayed his own deep involvement within the scientific community into a detailed understanding of the structure and operation of science in explaining the growth of knowledge.
- 30 Hayek does not directly claim science to be a spontaneous order, although his close and mutually supportive relationship with Polanyi, especially during the 1930s and 40s, likely provides sufficient ground to infer that Hayek generally agreed with Polanyi’s views. As Hayek increasingly turned toward evolutionary themes, his treatment of spontaneous orders, as seen for example in “Cosmos and Taxis” (ch. 3 of LLL, 1973), would quite clearly apply to science as instantiating a particular spontaneous order as a self-organizing, self-correcting, and adaptive system of freely interacting individuals in the sense of Polanyi. More recently, several researchers have built on Hayek and Polanyi to treat science as a spontaneous order; see Lavoie (1985, especially Chapter 3), Wible (1998, ch. 8), Butos and Koppl (2003), and McQuade (2007; 2010).
- 31 Menger (1883). While Menger’s book has been seen as mainly a statement affirming the status of theoretical work in economics, Hayek, in his lecture “The Trend of Economic Thinking” (1933), presciently directed attention to the part on spontaneous orders.
- 32 To be fair, Hayek had his plate quite full during that time, becoming embroiled in several noteworthy debates— on socialist calculation, with Knight on capital theory, and with Keynes on money and cycles.
- 33 Particular social structures and orders function within broader contexts and do not exist independently of those contexts. The catallactic theory of the market is nested in a set of institutions pertaining, for example, to the existence and enforcement of property rights and contracts, but these conditions can and should be taken as given if we wish to understand the role of price formation. Although exogenous conditions will

certainly affect how the catallaxy functions, viewing the catallaxy in positive terms as a complex adaptive order is the lens by which such outside conditions can be analyzed.

- 34 We have previously developed this issue in some detail in Butos & McQuade (2002).
- 35 Also see Polanyi (1945, pp. 143-44).
- 36 Also see Popper (1972, ch. 3), Musgrave (1974), Weimer (1979, ch. 5), Bartley (1984, ch. 5), and Harper (1995, pp. 58-60).
- 37 By “critical procedures” we mean the transactions of publication and citation, whose effects constitute feedback, both positive and negative, due to their effect on scientific reputation. Repeated iteration of these transactions in the context of feedback produced by earlier transactions results is the major stabilizing mechanism for the system of science and the source of the emergent product we call “scientific knowledge”.
- 38 It was not “judge-made” law—judges were necessary elements in ensuring that proper procedure was adhered to, but it was the jury who were expected to decide the case in a manner that was fair given the particular circumstances and expectations involved. See Hasnas (2005, pp. 89-92).
- 39 Morison contends Hasnas’s claims as to Hayek’s confusion of common and customary law, and Hasnas (2007) rebuts this critique. See also Morison (2007b), in which Hasnas’s general points (if not all his historical specifics) are conceded.
- 40 Our criticism of Hayek’s treatment of legal institutions echoes that of the more extended discussions in Stringham (2015, ch. 13) and Zywicki & Stringham (2012). As Stringham (2015, p. 218) points out, “Hayek [in his discussion of legal institutions] treats as normative concepts what are fundamentally questions of positive analysis and institutional design”.
- 41 “To say that partial planning [in a capitalistic society] of the kind we are alluding to is irrational is, however, not equivalent to saying that the only form of capitalism which can be rationally advocated is that of complete laissez-faire in the old sense. There is no reason to assume that the historically given legal institutions are necessarily the most ‘natural’ in any sense” (Hayek 1935, pp. 21-22). In “Planning, Science, and Freedom” Hayek says: “The alternative [to central planning] is, of course, not laissez-faire, as this misleading and vague term is usually understood. Much needs to be done to ensure the effectiveness of competition; and a great deal can be done outside the market to supplement the results” (1941, p. 83).
- 42 Examples mentioned by Hayek include a sound monetary system, a system of weights and measures, the dissemination of statistics and other information, supporting and organizing education, sanitary and health services, safety regulations, roads, and public works, which he says should be financed by taxes (Hayek 1960, pp. 222-226, 257-260). Support of the indigent, the unemployed and sick “has long been accepted as a duty of the community” (p. 285), yet Hayek argues that an obvious corollary” would be “to compel them to insure ... against those common hazards of life” (p. 286). Also see Hayek’s extensive discussion of government financing, though not necessarily the provision, of collective goods (1979, ch. 14) and his insistence that such services should not “be reserved to government if other means can be found for providing them” (p. 47).
- 43 Polanyi’s most complete statement on the funding of science appears in “The Republic of Science” (1962). In a remarkable section of this paper he says: “Subsidies should be curtailed in areas where their yields in terms of scientific merit tend to be low, and should be channeled instead to the growing points of science, where financial means may be expected to produce work of higher scientific value. It does not matter for this purpose whether the money comes from a public authority or from private sources, nor whether it is disbursed by a few sources or a large number of benefactors. So long as each allocation follows the guidance of scientific opinion, by giving preference to the most promising scientists and subjects, the distribution of grants will automatically yield the maximum advantage for the advancement of science as a whole” (pp. 60-61). Also see Polanyi (1945, p. 145).
- 44 This claim is consistent with Polanyi and Hayek both seeing science as a nonmarket order.
- 45 See Butos & McQuade (2006; 2012; 2015b).
- 46 This is not to say that there have not been serious critics of the market order—from Carlyle and Marx to Pigou and Keynes to Stiglitz and Piketty—who point to less-than-benign effects which they attribute to the unhampered market order. But even they would be hard pressed to deny the massive increase in wellbeing that McCloskey (2010) eloquently documents.
- 47 See, for example, Barry (1982, par. B.112): “In a market there is a mechanism, the price system, which does coordinate the actions of economic agents to produce an

- efficient order ... but there is no similar mechanism at work in a legal system.”
- 48 Hayek himself went quite far in this direction (not a surprise, since *The Sensory Order* is essentially the description of a very particular complex adaptive system)—see for example (Hayek 1967, pp. 66-81) where he asserts that “there is no reason why a polycentric order in which each element is guided only by rules and receives no orders from a center should not be capable of bringing about as complex and apparently as ‘purposive’ an adaptation to circumstances as could be produced [in a more hierarchically organized system]”. What is perhaps surprising is that he did not fully follow the idea through to purge it of a normative bias and to pursue its logical consequences for the development of applications throughout social realm.
- 49 Kauffman (1993, pp. 173-235; 1995, pp. 71-92), discussing “the twin sources of order”, makes the important point that, in biological systems, natural selection is not the only source of order, for the tendency in certain systems to self-organization is, in a sense, “order for free”.
- 50 See also Oprea & Wagner (2003), Axtell (2007), Rosser (2012) and especially Harper & Endres (2012), Harper and Lewis (2012), and Harper (2014). Modestly, we cite our own contributions to this trend: Butos & McQuade (2002; 2012; 2015a), McQuade & Butos (2003; 2005; 2009), and McQuade (2007).
- 51 We understand that treating market and science as stand-alone systems is a simplification that cannot be maintained in a more complete treatment of these systems. Clearly, both systems are critically dependent for their functioning on arrangements external to them—for markets, on arrangements that support the implementation of the institutions of property and contract, and for science, on arrangements that provide funding for research and facilitate publishing and distribution. Changes in the underlying systems in which science and market are embedded will, potentially, have consequences for the performance of their internal transactions and the characteristics of their emergent properties. And such changes may in turn depend on ideas and ideology, as McCloskey (2010) maintains.
- 52 See McQuade & Butos (2009) for a discussion of idealized features of complex adaptive systems. Also see Harper & Endres (2012) and Harper & Lewis (2012). Interestingly, all of the characteristics of adaptive systems described there are consistent with Hayek’s (1952a) description of the brain, with neurons as the active elements interacting physically via their axons, and the appropriate physical and chemical effects impinging on neurons as a result of their activity and location being the analogs of incentives and benefits.
- 53 There is no doubt that systems that do not closely adhere to the stabilized growth criteria can persist and grow for extended lengths of time. An obvious example is the system of representative government in the U.S., which has grown from very small beginnings over 200 years ago to now dominate the broader society. But the system has a structural problem in that the constraints thought sufficient to severely limit its growth—the separation of powers, the institutionalized competition between factions, and the ability of the electorate to replace its representatives—have been, in the long run, ineffective in generating feedback sufficient to stabilize the system sufficiently to keep it within the contemplated bounds.
- 54 They are operative at least to the extent that they are allowed to function in the face of constraining interventions, particularly in the case of the market system.
- 55 For a fuller discussion, see McQuade (2007, pp. 73-76).
- 56 We are certainly not suggesting here that such criteria form a basis for large-scale social engineering. It is one thing to identify bad rules and unstable or degenerating systems, but it is another to turn around and promote well-intentioned interventions to “solve” the problem. There are only two ways in which “bad” rules (and even the systems in which they operate) can be changed without interventions and their snowballing side effects, and they are both bottom-up: first, by ignoring them or withholding participation and letting them die (or lose their normative power) from misuse, and second, by entrepreneurial action to propose, at risk to the entrepreneur, new ways of doing things that amount to improvements to or replacements of existing rules and transaction modes. And both of these are feasible only in an environment in which there is, if not outright respect for, then at least some tolerance of, people of independent ideas who are prepared to implement those ideas.
- 57 We especially thank David Harper and Paul Lewis and for detailed comments and David Andersson for useful suggestions and are grateful to Sandy Ikeda, Israel Kirzner, Mario Rizzo, Joe Salerno, Ed Stringham of the NYU Colloquium on Market Institutions and Economic

Processes for their comments. We also thank Larry Gould and Farhad Rassekh for helpful remarks. An earlier version was presented at the Southern Economic Association Conference in November 2015. We also thank Donna McQuade for her editorial diligence.

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Emergent Orders of Worth: Must we agree on more than a price?

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Abstract: Market exchanges are widely believed to rely on an overlap of interest, this paper argues that many market exchanges actually rely on a broader agreement between buyer and seller. The broader agreement includes the moral justification of the exchange and the associated norms of propriety. To arrive at this broader agreement markets rely on systems of non-price coordination. These non-price coordination systems, or orders of worth as we call them, can be thought of as emergent orders just like the price system is an emergent order; they are sources of justification that can be drawn upon to warrant the worth of diverse artifacts and the legitimacy of trading them. We show that Adam Smith's theory of sympathy offers conceptual means for analyzing the emergence of such orders. To make sense of the emergence and functioning on these orders we draw on Smith's organon and link it with contemporary work in economic sociology by Luc Boltanski and Laurent Thévenot. We demonstrate how our theoretical framework can further our understanding of justifying exchanges of contested goods with two illustrative cases: contemporary art and surrogate motherhood.

JEL classification: A13, B12, D02, D46, L26, Z13

Keywords: Non-price coordination, spontaneous order, social norms, sympathy, contested commodities

I. INTRODUCTION

It is widely agreed that voluntary economic interactions are based on an overlap of interest. This paper argues that exchanges typically rely not just on an overlap of interest, but on a more extensive agreement. To explain the emergence of the more extensive agreement we examine Adam Smith's work and we look into the broad conceptual frame that the *Theory of Moral Sentiments* (1759/1984) provides for the *Wealth of Nations* (1776/1981). What we find is a theory of self-interested human beings that typically seek moral approval which is gained by adhering to emergent rules of propriety. In Smith's account propriety—or, indeed, the search for mutual agreement—is the fundamental motivation of human actions. Smith further demonstrates how mutual sympathy between two individuals can be extended to a wider scope of social interactions, his notion of the impartial spectator, and the internalization of this construct, is a theo-

ry of how notions of propriety that originate in the intimate order are extended to communities and ultimately society at large.

Smith's theory provides a foundation for more recent work in economic sociology which demonstrates that markets are in part structured by emergent orders of worth (Boltanski and Thévenot 1999; 2006).¹ The common ground is the issue of justification: how can we justify market exchanges? Although a minimal justification would be that the seller is willing to sell at a price at which the buyer is willing to buy, we argue here that most market exchanges rely on more extensive agreement between buyers and sellers. This necessity for more extensive agreement is particularly visible for “contested commodities”—artifacts for which it is not generally agreed that monetary exchange is the appropriate way of exchanging them (Radin 1996)—goods that were previously not traded on markets, or which have more recently been shielded from market exchange. This is not to say

that such agreement does not underlie other “non-contested” exchanges, but since there is widespread acceptance of the underlying agreement on how to estimate the value of non-contested commodities, that agreement is less directly visible.

Our thesis that exchanges typically rely not just on an overlap of interest, but on a more extensive agreement rests on a contention that the orders of worth that embed this agreement and thus shape markets are emergent phenomena, just like market prices. They are kinds of emergent non-price coordination, and complement the price coordination that takes place in markets and is widely regarded as the primary type of emergent coordination. These orders of worth are built on interpersonal agreement about the appropriate way to justify the worth of artifacts that agents deal with in their social interactions, they structure *why* and *how* exchanges take place in the market.

We challenge the notion that prices are the sole emergent coordinating mechanism at work in market exchanges, and we provide a theoretical framework that allows us to analyze disputes that arise over contested commodities. We show an important link between the work of Adam Smith and contemporary economic sociology. This link helps us move beyond many of the ethical disputes on whether everything should be for sale (Sandel 2012) suggesting an empirical way forward that studies the way in which moral justifications and critiques of market exchange emerge.

In what follows, using Smith’s notion of sympathy we develop an account of how interpersonal norms can spread throughout more extensive orders. Using the framework of Boltanski and Thévenot we show what kind of orders help structure market exchanges both in terms of justifying them (*why* should we buy and sell?) and in terms of propriety (*how* should we buy and sell?). Finally, we illustrate the value of this framework by analyzing the emergence of markets for two contested goods, contemporary art and surrogate motherhood.

2. MOST MARKET TRANSACTIONS RELY ON MORE THAN ONE SYSTEM OF COORDINATION

The notion of coordination is a concept related to the notion of order. These two notions are inextricably linked since order is the result of a coordination of various elements of a group (Caldwell 2004, p. 309; see also Hayek 1967). Economists of all sorts have stressed the coordinating capac-

ities of the market system. The way that markets coordinate human actions is through prices. High relative prices indicate scarcity and provide incentives to look for substitutes, low relative prices on the other hand point toward a profit opportunity. Hayek marveled at the economy of price coordination pointing out how little the individual participant needs to know to take the right course of action; the agent merely needs to follow a symbol, an aggregated essence of knowledge about a change in the system that is passed from the man on the spot to those who are concerned about that knowledge (Hayek 1945, pp. 526–527).

But is it really true that market prices do all the coordinative work? Is price coordination the only emergent form of coordination or are there some other forms of non-price coordination that shape market outcomes and human exchange more generally?² What role does (moral) persuasion play in facilitating exchange? And is it not true that shared notions of what is valuable also emerge on markets? Perhaps prices alone are not always as useful a signal as economists assume and, perhaps, non-price signals are not as useless as we are sometimes led to think.

One response to these issues is that prices take over the role that other forms of coordination fulfill in more intimate settings. Hayek believed that more extensive agreement is usually necessary within intimate orders: “Cooperation, like solidarity, presupposes a large measure of agreement on ends as well as on methods employed in their pursuit. It makes sense in a small group whose members share particular habits, knowledge and beliefs about possibilities” (Hayek 1988, p. 19). But he is quick to emphasize that such agreement limits what the group can achieve: “[Cooperation] makes hardly any sense when the problem is to adapt to unknown circumstances; yet it is this adaptation to the unknown on which the coordination of efforts in the extended order rests” (ibid). In fact Hayek develops what could be called the two-world hypothesis in which he argues that the small group and the extended order are based on rival and contradictory norms and rules:

If we were to apply the unmodified, uncurbed, rules of the micro-cosmos to the macro-cosmos (our wider civilization), as our instincts and sentimental yearnings often make us wish to do, we would destroy it. Yet if we were always to apply the rules of the extended order to our more intimate groupings, we would crush them. So we must learn to live in two sorts of world at once (Hayek 1988, p. 18).

We read Adam Smith as making an argument that the two orders are indeed based on different and occasionally conflicting principles, but that the relation between these two orders is gradual rather than oppositional as Hayek seems to suggest. In fact, Adam Smith's notion of mutual sympathy is the concept that connects the intimate order with the extended order.

There are in fact implicit clues in Hayek's work that suggest that coordination of plans depends not only on prices, but also on social norms (Vaughn 1999). As Paul Lewis and Peter Lewin (2015) rightly point out, the knowledge that agents need to coordinate their plans is contained not only in price signals but also in formal and informal social rules. Prices are not unambiguous pieces of information and any information about changes, about social phenomena including information about changes in prices must first be interpreted and understood before people can use it as their knowledge and act upon it. Consequently, "the dissemination of knowledge required for plan coordination is facilitated not only by price signals but also by a set of intersubjectively shared rules and norms" (Lewis and Lewin 2015, p. 3). We wish to expand on this work and propose a theoretical framework built around Adam Smith's theory of moral sentiments to provide some insights into how shared rules of interpretation and norms of categorization emerge as an unintended consequence of the search for moral approval.

2.1 Emergent Non-Price Coordination

We contend that apart from the price coordination, there are systems of coordination that function on the basis of signals distinct from prices. These are systems of coordination that rely on approval and disapproval; it is here assumed that these systems of coordination rest on the tendency of agents toward sympathy. Consequently, these non-price systems of coordination often have direct impact on the functioning of the price-system coordination. Apart from market prices, approval and disapproval (the smile and the frown) are therefore other sources of emergent coordination.³

Sympathy in the sense we employ it is a technical term meaning coeffective behavior.⁴ Smith in his *Theory of Moral Sentiments* (henceforth *TMS*) thought of sympathy as a projection; it is a sentiment that can be both positive and negative. For instance, when our friend wins a lottery our "sympathetic passion" tends to coincide with his happiness. On the other hand, when our family member or our friend suffers a loss, we tend to mourn with her. This is "the sympathetic passion of the spectator" (*TMS*, I, iii, I, § 9).

Sympathy is a concept distinct from compassion, furthermore, sympathy is a sentiment distinct from approbation. Sympathy makes it possible for us to evaluate and esteem actions of other men and of ourselves; this act of evaluation or judgment simply consists in the emotion which arises from a coincidence between the spectator's projection, the sympathetic passion, and the original reaction of the person principally concerned. In this sense, sympathy is a "fundamental principle in human nature" that is propelled by a desire to agree, "to be in accord with our fellow men" (Haakonssen 1981, p. 49). Although we tend to share the joy of winning a lottery with our friends, we would perhaps disapprove of their reaction were it exaggerated or inconsiderate. This is the mechanism behind social approval and disapproval. If we approve of another's reactions as appropriate to their situation, we generally tend to observe that we can imagine ourselves in the person's situation, we can entirely sympathize with them. On the other hand, when we disapprove, perhaps, observing a biased or a corrupt judge, in such a situation we cannot completely bring ourselves to sympathize with the person with question (*TMS*, I, i, 3, § 1). In that sense Smith provides a theory that revolves around the proper response to a situation.

How can any agent know whether his or her actions are proper and permissible? We suggest that the sentiment of approval or disapproval always presupposes "some other being" who judges of the observed actions of agents. In turn, it is only by sympathizing with the "arbiter of his conduct" that an agent can decide whether his actions are proper and permissible. Social interactions—regardless of whether they take place in a market setting—always consist of at three classes of agents: there are always the interacting agents and "some other being" called a spectator (see Figure 1). At the most basic level both the agents and the spectator can be individuals. But the agents and/or the spectator can be groups of people, communities, firms, or organizations. The spectator can be endowed with political power, the spectator can be a jury, etc. Most importantly, as Smith suggested, the spectator can be the conscience of the agent that substitutes for any other "real" spectator.

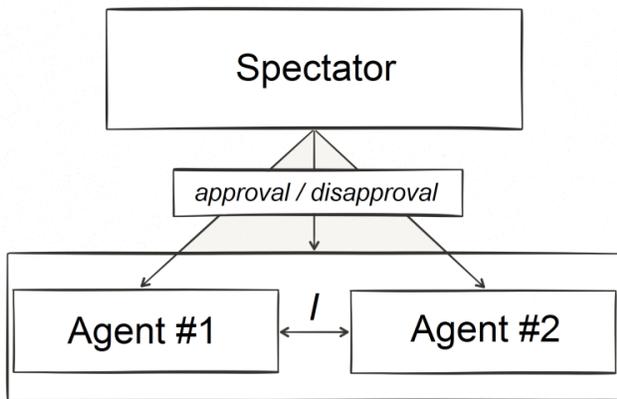


Figure 1: Every social interaction always consists of three kinds of agents, the interacting agents and a spectator who judges the actions and motives of these agents and the interaction (I) between them.

Smith gives us a step-by-step theory of sympathetic evaluations through which the spectator either approves or disapproves of agents' actions and interactions. First, the spectator must put himself into the agent's shoes in order to *distance himself* from his present situation and to "expose himself to the same causal influences as the man originally concerned" (Haakonssen 1981, p. 51). Second, the spectator *reacts* to this imagined situation after having exposed himself to the sentiments that the man originally concerned have felt. Third, the spectator *compares* the original actions of the observed agent with his response to sentiments that were brought up by the imaginary change of situation. Finally, in case of a coincidence of these two sentiments, the spectator feels a kind of pleasure—he *approves*—or, in case of less than a perfect coincidence, a kind of pain—in which case he *disapproves*.

But since sympathy is something mutual between men, it is both given and taken, agents judge and are being judged. The realization that there is something to be observed and judged makes the agent adjust his behavior and imagine how his actions would look in the eyes of other spectators. Consequently, agents try to arrive at a spectator position toward themselves. When we try to create such a spectator position, we must first *distance ourselves* from our present situation, we try to take an impartial perspective with regard to our situation. Second, we try to imagine how such an imagined impartial and fair spectator would *react* to our original situation. Third, we try to see whether this imagined fair spectator could *enter into and sympathize* with our original motives and actions. Finally, if we can thoroughly enter into our original motives and passions, we approve

of them. This evaluation of our own actions is impossible without the exercise of *removing ourselves from our natural station*. We can, however, often achieve this by *imagining* how our actions and interactions appear through the eyes of other people. Such an exercise of self-reflection based in our sympathetic sentiments gives rise to a process of permanent adjustment of our beliefs about what the proper and permissible actions and motives are. We create and permanently adjust our projection of an impartial spectator, which is the model of morally right action. This adjustment is a social process by way of which shared social standards that make social life possible unintentionally emerge.

Through the operation of mutual sympathy, improper actions and interactions are weeded out.⁵ It is important to understand, however, that it is not merely the original behavior of agents that makes the spectator approve or disapprove by way of this sympathetic exercise. The factor which ultimately determines the sympathetic evaluation is the *logic of a situation* within which the observed behavior takes place: "Sympathy ... does not arise so much from the view of the passion, as from that of the situation which excites it" (*TMS*, I, i, I, §10). The cause of sympathy is therefore not the original observed act but the situation within which the behavior takes place; moral evaluation is a problem of appropriate behavior in light of a given situation, "[t]o be able to judge is to be able to know the situation" (Haakonssen 1981, p. 47).⁶

In the suitability or unsuitability, in the proportion or disproportion, which the affection seems to bear to the cause or object which excites it, consists the propriety or impropriety, the decency or ungracefulness, of the consequent action. (*TMS*, I, i, 3, § 6)

Evaluating behavior as proper is essentially a two-step process. First, the logic of the situation needs to be identified: what type of situation is it, and what type of behavior is appropriate and suitable in this situation? Or more to the point, what are the (common) goods that we aim for in these type of situations? Second, what is the extent to which the relevant artifact contributes to these common goods? As we will explain in the following section, the first step necessarily involves ambiguity about which situational logic is at play. The second step, consequently, introduces a problem of how to reconcile competing individual valuations within the given situation. The suitability and the propriety of behavior is necessarily context dependent—it changes with time and place—we consider someone's conduct suitable when "we

observe that his conduct has been agreeable to the general rules" (*TMS*, VII, iii, 3, §16).

To give just one example the type of behavior that is appropriate and suitable is different when we are sleeping in a hotel or sleeping in a friend's house. Both for the hotel staff, our friends, and you as guest. Ambiguity about the appropriateness might however arise when it is not quite clear what type of exchange we are engaged in. If we are couch-surfing are paying guests supposed to behave as friends would, or rather as we would in a hotel? Underlying this ambiguity is an ambiguity about the type of common goods we are trying to achieve. Although customary conventions are historically contingent, they are very real in the sense that they provide an ecological rationality.

We live in a pluralistic society with multiple notions of the common good to strive for; multiple notions of justice are operative in modern societies. These plural notions of justice are best thought of as competing representations of the impartial spectator. How can people agree on which representation of the impartial spectator is the right one? What if our representations of the impartial spectator collide? Are we bound to disagree and fall into dissonance or conflict?

3. COORDINATION AND ORDERS OF WORTH

Recent work in economic sociology provides further insight into what we identified above as the ecological rationality typical of exchange situations, broadly conceived. Boltanski and Thévenot (2006) speak of diverse "worlds" within which distinct justifications are constituted. They argue that in situations of conflict, actions will have to be justified. From an analysis of a wide variety of such disputes they have distilled six distinct worlds in which actions can be justified. They recognize that these justifications of goodness are not mutually exclusive, but frequently reinforce each other. On the other hand, they also emphasize that when two orders of worth are used simultaneously there is always the possibility of friction and conflict. These orders of worth are not "hostile worlds" (Zelizer 2000), instead they represent a plurality of justifications that co-exist and structure social interactions.

Their account shares important similarities with that of Smith. Both theories emphasize the importance of propriety, and the context-dependence of propriety. They also share an emphasis on the plurality and imprecise nature of the good. But where Smith emphasizes elements of estimative justice, *how* should we respond to particular situations, Boltanski and Thévenot add the analysis of the content of that justice. Their orders of worth are *substantive* possible justifications

of particular actions, and modes of criticism to delegitimize the actions of others. Whereas Smith's account focuses on the search for mutual agreement, Boltanski and Thévenot focus on the possibility of dispute. The justifications of actions, they argue cannot be reduced to a single standard or order of worth, as various social sciences, including neoclassical economics, have attempted. These orders of worth reflect the plurality of standards in contemporary societies.

There are six orders of worth that Boltanski and Thévenot identify: the inspired world, the domestic world, the civic world, the world of fame, the industrial world and finally the market world. From these they have derived worlds that internally cohere and justify action and decision-making. The domestic world, for example, is characterized by good manners, conventions and tradition and strongly based on hierarchical relationships between parents and children, kings and subjects. Propriety in this world requires loyalty, service, obedience and civility. And actions are justified in relation to the common good of a shared tradition, or the position in a "natural" hierarchy.

The market world is, on the other hand, free from the prejudices and attachments that characterize the domestic world. It is characterized by competition, rivalry, buying and selling and the creation of value for others. Typical relationships are those between buyer and seller, or employer and employee. And propriety in this world requires one to please the customer, to remain alert to opportunities, to negotiate, and to fulfill one's contractual obligations. While markets tend to be open and geographically unbound, the domestic world is typically attached to certain places and customs. It is thus a frequent criticism that the market makes everything equal, robbing it of the distinctiveness and particularity that is important in the domestic world. Too much dependence on domestic relationships might also look like favoritism in the merit-based world of the market. Or, to use Smith's language, such motives would be a form of impropriety.

To illustrate the idea of multiple co-existing orders of worth, David Stark asks us to think of writing an academic letter of recommendation. These letters typically invoke multiple orders of worth:

In fact, a given letter might include performance criteria from each of the six orders of worth. We would not be surprised, for example, to read that a given candidate is "very creative" (the inspired); that she is incredibly "productive" (the industrial); and that she is a "good citizen" (the civic). Moreover, the same letter could note that her work is "frequently cited" (the or-

der of fame or renown) and that she is fiercely “loyal to her graduate students” (check off another [the domestic]). Has the letter writer neglected the market order? We are not likely to hear about an academic as the author of a “best-selling” book. Look through the letter again and you might find that the candidate “has a strong record of getting grants”. (Stark 2009, p. 12)

Stark’s example does not only suggest that plural orders of worth are operative, but also that academic performance, like many other “goods”, are valued for a variety of qualities not all of which can nor should be priced; our idea of what they are good for is complex and plural. This variety also points to possible tensions between these worlds. In fact outside of the inflated realm of recommendation letters, it seems unlikely that any academic can contribute to all these common goods. We may, for example, think of trade-offs that exist between the goal of being “very creative” and “highly productive”. But the strength of the Boltanski and Thévenot framework is that they demonstrate that most situations are open to these type of conflicts, in the sense that they are never wholly determined or formed by one order of worth. Just like in Smith’s broad virtue ethics framework, the goods to strive for tend to be multiple. As they argue: “Equitable judgment seeks to appease the tensions inherent in the plurality of principles of agreement in this universe, by making accommodations and by taking recourse to mitigating circumstances” (Boltanski and Thévenot 2006, p. 150).

In our illustrative case studies below we show how such accommodations play a vital role in the justification of market exchange of goods, that are thought to be unsuitable for it. Boltanski and Thévenot add one important insight that links their work up with that of Adam Smith. In Smith’s work we find the notion of the impartial spectator which symbolizes the notion of justice. Boltanski and Thévenot similarly emphasize what they call the “reflective moment” in action (Boltanski and Thévenot 2006, pp. 348–349). It is in such reflective moments, which can be individual or social, that the relevant notions of justice are invoked and come into conflict with each other. We should therefore examine disputes, for it is in such situations that a presumed implicit agreement needs to be made explicit. When we look at the cases of contemporary art and surrogate motherhood in a moment we will see that when the legitimacy of the monetary exchange is challenged, competing orders of worth, and hence competing notions of the common good are invoked in the dispute.

Before we turn to our illustrative cases, let us first summarize what our theoretical framework consists of. Inspired by Adam Smith we argue that human interactions are driven by the desire for agreement. Smith emphasizes the way in which this process of search for agreement unintendedly gives rise to norms of propriety, in terms of exchange relationships, this is the *how* of exchange. The framework of Boltanski and Thévenot touches on many points with that of Smith, but it emphasizes two additional aspects. First, it makes explicit the plurality of notions of justice in modern societies, and the way in which these may lead to compromise and conflict. Second, by emphasizing the justification of actions in reflective moments, it makes clear *why* an exchange might take place, or to what common good it contributes. Taken together their work provides a theoretical framework that allows us to study how new markets are justified and how norms of propriety emerge on such a market. By doing so we demonstrate the importance of more extensive agreement on such norms of propriety and justice on markets, thereby undercutting the strong distinction that is typically drawn between exchanges in the intimate order and the extended order.

4. THE EXCHANGE OF “CONTESTED COMMODITIES”

In this section we examine two kinds of artifacts for which market exchange is contested. For these artifacts it is not generally accepted that market exchange is the appropriate way of dealing with them (Satz 2010; Brennan and Jaworski 2015). Examining the justifications underlying and the practices surrounding the exchange of such artifacts allows us to analyze the agreement that, if reached, is necessary to legitimize market exchange. The analysis of the exchange of such contested commodities allows us to do so because the agreement has only recently been achieved, or because it the agreement is still incomplete.

4.1 Galleries: What is a New Painting Worth?

One type of contested commodities are artistic products, about which it is frequently argued that they are not fit for the market, because that would lead to commercialization of the products, devaluation or inauthentic art. This is also a type of good for which gift exchange is very important: between donors and artists, between artists who exchange their work (and views), as well as in donations to museums by private collectors. This exchange through gifts is often accompanied by a denunciation of market exchange (Abbing 2002, p. 39). As Hans Abbing points out navigating these two

spheres of interaction requires considerable skill on the side of the artist and other players in the art sector. Can gifts ever be transformed into objects of monetary exchange? And what is precisely the status of a sale to a “friend” for less than the market value? When operating in the sphere of monetary transactions it is important that the “sacredness” and love for art is respected. Somehow the gap between these two spheres has to be bridged. In terms of the Boltanski and Thévenot framework, the worlds have to be reconciled.

Olav Velthuis, in his study of the contemporary art market in Amsterdam and New York, similarly distinguishes between a logic of the arts which centers on quality—the connection between man and his work and the importance of inspiration and passion, motivations and justifications that overlap with the inspired world of Boltanski and Thévenot—and an economic logic organized around commensuration and monetary measurement. According to the market logic, goods are produced for profit and value that is independent of the maker or current owner (Velthuis 2005). This economic logic is organized around sellers and buyers, as Boltanski and Thévenot argue about the market order of worth and is aimed at a certain impersonality of the valuation.

To engage in a legitimate or justified exchange buyers and sellers must agree, not just on a price, but also on why monetary exchange is proper in this case. If both the buyer and the seller share a love of art then a monetary exchange is legitimate, but even so the exchanges are heavily structured by norms of propriety as Velthuis’s (2005) study of pricing strategies for contemporary art galleries demonstrates. The gallerist, who typically takes in about 50% of the retail price, has the function of keeping these worlds separate while at the same time connecting them. This somewhat paradoxical situation is reflected in the set-up of the art gallery as Velthuis shows. Galleries usually have a front and a back room, in the front room the artwork is displayed and there is no talk of money, the back room, on the other hand, is where deals are made. In the front room, where the art is, the conversation is about inspiration, meaning and creativity. In the back room the conversation is about what the work might fetch in the market (see also Coslor 2010). This physically separates the two logics, that of the market and that of the inspired world.

In line with what our theoretical framework suggests, gallerists and buyers go to great length to signal and demonstrate that they buy art for the right reasons. Gallerists prefer to sell to those buyers who share the passions of inclinations of the painter, the collectors. There is typically a preference for institutional collectors because they bestow more pres-

tige upon the artist by deeming him worthy of collecting, and are more likely to display the work. While selling to investors occurs, it is generally denounced, by both gallerists themselves and by artists. Prices, typically not posted, might be increased in such exchanges (they are not buying for the right reason). Velthuis demonstrates further that it is inappropriate for the gallery owner to “market” the works in his gallery, instead he acts as a critic and educator (otherwise he is not selling for the right reason). There is no just-below pricing going on, something that once again reeks of a dominance of the market logic, and the biography of an art work is essential in the story about it. Who made it, where was it made, what inspired the work and who owned it before. The rhetoric, an important aspect of norms of propriety and the *how* of the exchange, is firmly rooted in the world of inspiration (Velthuis 2005). Although Velthuis does not interpret his findings along the lines of propriety and denunciation, his study shows how these structure the way in which exchanges take place, and how these exchanges are justified.

Gallery owners, in their role as market intermediaries are constantly negotiating the tension between these two logics and justifications. Velthuis for examples cites one of the gallery owners who describes the process of telling his artists which artworks sold well:

Of course I will tell an artist what people think of an exhibition and which work they appreciate in particular, but you have to do it very carefully. Otherwise you intrude on artistic integrity. So you have to use very artistic sentences in order to get away with that. I will never proceed to say that they should make more of certain works (Velthuis 2005, p. 91)

The social setting of the galleries in this respect is important. The art world is well-organized and there is extensive monitoring and social sanctioning of behavior that is improper (Becker 1984). As such the recursive process of constructing a representation of the impartial spectator is very present in this particular setting. Gallerists can diverge too much from emerging norms of propriety, but by doing so they place themselves in a different market segment. “Respectable” galleries do not sell spin-off work or any type of merchandise which would once again bring out the conflict between the inspired and the market world. The deviants, however, consciously appeal to a logic of reaching out to the public and making art available to everyone. They are more responsive to the wishes of the consumer (paintings that match the interior and the couch). In other words they

negotiate the tension differently, but as a consequence they are not able to charge the same prices because justifications of high value using the inspired or artistic justifications typically lead to higher prices (Velthuis 2008, p. 48).

Velthuis's study, from which we extensively borrow here, lets us demonstrate a key insight: the justification of monetary exchange relies on the shared appreciation of art. We have shown that that the *why* of the exchange (the love of art), and the way in which the deal contributes to the prestige in the world of inspiration are two crucial elements for the functioning of the contemporary art market. These two factors give rise to a host of norms of propriety that structure the behavior and in turn enable the market exchange. These emergent norms legitimize a type of exchange that otherwise would be considered to degrade the product involved. Whether monetary exchange can be justified nonetheless, depends on whether agreement can be found on the common goal to contribute to, which will impact on how such monetary exchanges will take place. Sometimes such agreement has not been found or is actively disputed. Sometimes, as our next illustrative case shows, justifications come to be constructed for goods previously not traded on the market.

4.2 Selling Babies vs. Renting Out Reproductive Capacities

Although motherhood used to be an uncontested category, the introduction of in vitro fertilization and the subsequent combination of this new technology with diverse contractual arrangements introduced a fundamental confusion in terms of what can and what cannot and should not be legitimately done.

Surrogacy agreements involve typically “a man and a woman who are a couple (the “intended parents”) and another woman (the “carrying mother”) who agrees to carry a pregnancy for them” (Shalev 1998, p. 83). In some jurisdictions, and depending on our conception of “mother”, the surrogacy contract may be subject to criminal punishment. In such cases the contract most likely involves a transaction of selling the child and as such is most likely going to be illegal. If, on the other hand, we consider the legal mother to be the commissioning mother, then the contract essentially involves a temporary provision of reproductive capacities; the “intended parents” merely rent the womb of the “carrying mother”. Whether it would be the one or another was in the case of surrogacy to be determined by a process of “representational redescription” (Denzau and North 1994) through which our categories of thought are constantly shaped and molded. Entrepreneurs, by means of legitimating new combinations, played a crucial role in this process.

In the United States surrogacy has been justified by means of stressing the “constitutional right of privacy which protects personal decisions with respect to marriage and reproduction” (Keane 1980, p. 147). This is a justification that emphasizes the “civic” worth of surrogacy—it empowers the contractual parties by way of expanding their freedom to choose with regard to procreation. A right for a mother to ask a price for the service she considers fit has been justified by way of diverse reasons. First, “[u]nless surrogate mothers can be offered meaningful compensation for their services, very few children will be brought legally into the world in this manner” (Keane 1980, p. 153), consequently, “a prohibition on compensation for surrogate motherhood is equivalent to a prohibition of the practice” (Keane 1980, p. 164). On a more general level, “it is difficult to specify precisely why the ‘commercialization’ of a surrogate motherhood arrangement is inconsistent with public policy ... ‘commercialization’ is the usual way in which many individual needs are satisfied” (Keane 1980, p. 156).

It is evident that justifications in the United States relied on a combination of the civic world and the market world. In other countries these two worlds tend to be more in conflict with one another, but in the United States the civic world typically empowers the individual, which makes it easier to combine civic with market justifications. The entrepreneurs and the surrogate mothers would also stress that they are in fact giving a “gift of life”, thus at the same time attempting to reinforce the common good of the domestic world, to which this artifact used to belong. The surrogate mothers as well as the facilitators of this exchange would sometimes emphasize that although made possible by way of financial compensation that makes up for the lost opportunities and incurred pain on the surrogate's side, this compensation is in no way expressing the worth of the unique “gift of life”. Justifying surrogacy along the civic, market and domestic lines gradually transformed the climate of opinion. Whereas in 1983 only about 39% of the US population approved of surrogacy, in 1992, it was about 55% of population that came to approve (Kuchař 2016).

It is illuminating to compare the process of justification of surrogacy in United States with the same process that took place in Israel and see how the interplay of different orders of worth differs in terms of what are the proper and permissible ways of carrying out surrogacy agreements. As Elly Teman (2003, p. 79) puts it, “the same technology can be oppositely ‘naturalized’ according to different agendas.” Teman adds that “the Jewish-Israeli experience of surrogacy may be read as a product of the Israeli cultural context,” where the

“state interest in a ‘naturalized,’ ‘gene-based’ notion of Jewish identity” plays a crucial role (Teman 2003, p. 92). In Israel “the centrality of the values of family and childbearing goes unchallenged” and the state fertility policies are extremely generous. Consequently, “[t]he incidence of infertility treatment ... measured by the number of clinics per capita ... is the highest in the world, four times larger than in the United States” (Shalev 1998, p. 75).

As Teman notes, highlighting the distinctive characteristics of the “civic” justifications of surrogacy in Israel, “the biblical directive of Jewish tradition to ‘be fruitful and multiply’ and the emotional needs of a people in a permanent state of war” result in the fact that the “cultural reproductive imperative is so strong that Israeli legislation actively encourages Israeli women to pursue technologically assisted reproduction” (Teman 2003, p. 80). Israeli women “enter into symbolic relations with the state specifically through their roles as wives and mothers” and when they decide to enter into a surrogacy agreement, they often tend to “use medical metaphors to create the ‘artificial body’ ... creating a distinction between the ‘medically managed’ body of surrogacy and the individual, ‘natural body’ that they inhabit regularly” (Teman 2003, pp. 84–85).

Finally, when entering into a surrogacy agreement “the amount of payment [a carrying mother can be paid] is subject to the approval of the statutory approval committee and is not a matter of freedom of contract as in personal services and labor contracts ... if the carrying mother receives payment beyond the approved sum she is liable to criminal prosecution for an offence carrying a maximum penalty of one year imprisonment” (Shalev 1998, p. 93). In the case of Israeli surrogacy, the “industrial” and “civic” orders of worth thus link up at the expense of the domestic justification. Surrogacy is regarded as a way to carry out a civic duty and to contribute to a common good of the people of Israel. As Teman points out, in the case of Israeli surrogacy there is also a prominent role of justification based on the “fame” order of worth: “[U]nmarried women in Israel use motherhood as a channel of status enhancement, because the stigma against single women in Israel is far greater than that against single mothers” (Teman 2003, p. 92). When surrogacy comes into play, Israeli women tend to consider it as “a status-enhancing experience personally and dismissing the threat of their further marginalization” (Teman 2003, p. 93) had they remained childless. Unlike in the United States, “[c]riticism of the technology inside Israel is almost non-existent” (Shalev 1998, pp. 75–76) and its justification is built around a heavily subsidized state-managed “industry”

that gives Israeli women incentives to enhance their “civic” status by way of serving their country.⁷

Norms of propriety and even the justifications for surrogate motherhood differ between Israel and the United States. But both cases clearly show that agreement has to be constructed, and is far more extensive than an overlap of interest. The different orders of worth are not necessarily hostile worlds, but reconciling plural notions of worth requires work. The agreement, moreover, is not isolated, but occurs within a broader legal and social context, that has to approve of the exchange.

The case-studies of art and reproduction demonstrate that more than a narrow overlap of interest is involved in the market exchange of these goods. For markets to function non-price coordination is necessary to allow individuals to agree on the propriety of the exchange, and on the appropriate way to understand and value the artifact. We specifically expect to find these “contested commodities” at the border between the intimate and the extended order. In such cases the agreement in smaller social groups has to be extended to the broader and more open market context. The resulting agreements, if reached, on the justification of the *why* and *how* of market exchange allow agents to pursue their self-interest, they constrain and enable what is proper and permissible at any given time and place. The construction of these justifications is the work of market-makers or entrepreneurs. Looking into the effects of entrepreneurship in the non-price processes of coordination is the next logical step of inquiry.

5. CONCLUSION

Not all emergent systems of coordination are price systems, there are alternative systems of non-price coordination that emerge from human interactions. This article has examined in particular how the desire for mutual sympathy and the resulting norms of propriety structure markets showing that market exchanges rely on an agreement than is more extensive than just an agreement on a price. To examine the nature of this more extensive agreement we have developed a theoretical framework based on Adam Smith’s notion of sympathy, and Boltanski and Thévenot’s concept of orders of worth. The emergent systems of non-price coordination we have examined here are built on an interpersonal agreement about the appropriate way to justify the worth of artifacts that agents deal with in their social interactions. From that justification, associated norms of propriety emerge, that structure market exchanges. This is particularly visible for

the so-called contested goods, of which two are examined here.

Our view contrasts sharply with neoclassical and broader economic notions of market exchanges which emphasize that only agreement on price between an individual buyer and seller is necessary for the exchange to take place. We have argued to the contrary, that exchange of a wide variety of artifacts relies on more than agreement on price, it relies on agreement about the underlying worth (and hence the meaning) of certain artifacts, and the legitimacy of exchanging them on the market.

We have used the examples of art galleries and surrogate mothers to illustrate how coordination about the justification of value occurs and how different orders of worth reinforce or destabilize one another. But our argument reaches further. The example of these goods for which market exchange is contested makes visible, as conflicts often do, what underlies market exchange more generally. We do not seek to argue that market exchange cannot be impersonal, instead we wish to highlight that market exchange relies on the implicit agreement about the nature of the good and the appropriate way to value it, even if individual valuations might differ within these constraints. In other words the understanding of the meaning of surrogate motherhood and art is shared by market participants, even though their willingness to pay might differ.

The value of a good is justified because it possesses certain qualities, which are related to certain notions of goodness or orders of worth. This non-price coordination relies on justifications that legitimize the worth of a good in relation to such a notion of goodness. Some reflection makes us realize that we engage in these type of justifications all the time. When we call something expensive or cheap we do so in relation to some order of worth. Such justifications are not isolated from the context in which goods are exchanged. So the proper conduct of the seller and the buyer is different in an art-gallery than in the grocery-store. And such proper conduct is different when we compare surrogate motherhood agreements in the United States and Israel.

We believe there are several reasons why the question of emergent non-price coordination deserves attention. First, our research contributes to the work that looks into how markets come to exist and how they are retained. Although economists have a good general understanding about how markets work once they have emerged, the question where markets come from, and how they emerge or can be constructed is far less explored. Second, we provide a perspective valuable for historians of thought. Our thesis identifies

links between the theory of justice that Adam Smith considered inseparable from his economic theory and today's economic sociology that develops such a theory of justice more or less independently of our economic theory. Third, we believe to have identified understudied aspects of entrepreneurship that have to do with the construction of justifications for the legitimacy of monetary exchange.

In cases of contested artifacts, entrepreneurs often change our institutions, including our categories of thought. This type of entrepreneurship, in contrast with those types of entrepreneurship more closely related to price, has received little attention, precisely because economists have turned a blind eye to the agreement that underlies market exchange. We believe that further work looking into the understudied entrepreneurial functions of non-market coordination will give us a much needed understanding about the process of how the agreement on the appropriate order(s) of worth is negotiated in a world of elusive technological change and development. Understanding the entrepreneurial activity that shapes our mental models and molds the existing orders of worth is indispensable for understanding the feasibility of certain institutional changes.⁸

NOTES

- 1 Their work is part of a larger body of research, known in France as the economics of convention (Dupuy et al. 1989; Thévenot et al. 2005).
- 2 Ronald Coase (1934) offers a major contribution toward our understanding of how the line between markets and hierarchies is drawn but we would like to look beyond the markets-hierarchies dichotomy. We agree that parallel to markets there are hierarchical structures (firms or governments) as proposed by Coase and his neoinstitutionalist followers but we further argue that besides hierarchies there are also emergent nonhierarchical orders that interact with markets.
- 3 As Hayek (1982, p. 167) points out, "perhaps all that is innate is the fear of the frown and other signs of disapproval of our fellows."
- 4 The notion of "empathy" would perhaps in our common understanding of the term be closer to the meaning of the term "sympathy" employed among the Scottish Enlightenment scholars.
- 5 To go along with the garden metaphor, it should be made clear that unless the social norms are watered and

maintained, otherwise inappropriate behavior may soon grow again.

- 6 Explaining the concept of situational logic, Karl Popper (1976, p. 104) contends that “individuals act, in or for or through institutions. *The general situational logic of these actions will be the theory of the quasi-actions of institutions.*” Popper considered the problem of general situational logic and the theory of institutions to be the fundamental tasks of social science: “a theory of intended or unintended institutional consequences of purposive action ... could also lead to a theory of the creation and development of institutions” (ibid.), “[t]he task of describing this social environment ... is the fundamental task of social science,” this is a task of “explaining unintended and often undesired consequences of human action” (Popper 1976, pp. 101–102). On Popper’s concept of situational logic, see also Noretta Koertge (1979).
- 7 Carmel Shalev points out that being consistent with the *halakhic* (orthodox) doctrine of Jewish law, The Surrogate Mother Agreements Law (in force since 1996) “does not herald any revolution or even innovation in our attitude to reproduction, motherhood and women. On the contrary—it merely perpetuates values of a dominant patriarchal culture that does not treat women well. The Law glorifies motherhood and at the same time humiliates it” (Shalev 1998, p. 100).
- 8 This manuscript originally circulated under the title of “Economics of Convention: Sympathy and Social Norms” and was written for the 2015 *Cosmos + Taxis* conference at the Rochester Institute of Technology. For the invitation to present our work and for the support we are grateful to David Andersson and Lauren Hall. Furthermore we thank the participants at the 2015 APEE conference in Cancún, the Vizier seminar at Erasmus University Rotterdam and at the 2015 SDAE conference in New Orleans. Finally, we acknowledge the insights of two referees. Any remaining errors are our responsibility.

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DISCUSSION

Rejoinder to Callahan and Hudik on Libertarian Principles

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Abstract: The present paper is the latest installment in a debate over libertarianism that started with Callahan (2012). The thesis of the latter was that deductivist political economic philosophers such as Rothbard, Hoppe, Block, Nozick, Buchanan and Tullock were on the wrong track, since libertarianism cannot rely upon deduction alone, but needs, in addition, what perhaps may be characterized as prudential judgement, perhaps with a dollop of utilitarianism tossed in. Next in the batter's box was Block (2015) which defended two of Callahan's (2012) targets, Rothbard and Block, against the former's charge that the latter two do not realize that rights often conflict with one another, and thus pure deductivism cannot suffice. Third place in this parade was Callahan (2015), a summary of which is that rights do indeed clash with one another, and thus libertarianism cannot consist (solely) of a deductive system. Hudik (2015) also joined in this attempt to shed light on the issue. He maintains that the libertarianism of Rothbard and Block is also problematic, but from additional points of view. The present paper is a response to Callahan (2015) and Hudik (2015). In it, while I acknowledge that there is much of positive value in both critiques, I maintain that the Rothbard and Block perspectives remain unscathed.

JEL category: H0**Keywords:** Libertarianism, deontology, utilitarianism

I. INTRODUCTION

I am extremely grateful to Callahan (2015)¹ and Hudik (2015). Although I cannot agree with their conclusions, they are both eminent libertarians, and exhibit broad, deep and thorough knowledge of this subject. Further, there are few better ways to delve deeply into our beloved philosophy than through this process of thesis, anti-thesis and synthesis. And, I know of few other libertarians better able to enter these sorts of lists than these two scholars. In section II an attempt is made to distinguish my views from those of Callahan. The burden of section III is to do the same with regard to Hudik. Section IV is the conclusion.

II. CALLAHAN

I admire Callahan as a libertarian theorist.² I thank him for engaging in this present debate with me, and, having been my co-author on separate topics pertaining to this philosophy, not once but twice.³ However, on this issue we part company.

Callahan claims that had I read his entire publication of 2012, I would have been better able to understand his contribution. I did indeed read it all, but chose to reply, only, to those remarks of his concerning Rothbard and me. As long as the critic does not take anything out of context, he may be excused for what he does *not* write a about. If it is legitimate to criticize an author not for what he focuses on but for what he does not address, I now disparage Callahan (2015) for not addressing baseball.

Next, this learned researcher puts his finger on one of the most vexing and important issues in all of libertarian philosophy, the relationship between deontology and utilitarianism. In Callahan's view, each is crucially important. Only together, in tandem, can both shed light on issues vital to libertarianism. He sees each as akin to one of our legs. What is the problem with each of these concepts, from his point of view? He states:

Deontology and utilitarianism are both abstract conceptions of ethics, and therefore, partial and defective. Their plausibility derives from two factors: 1) They each get at part of the truth: it *is* true, as deontologists insist, that principles are an important part of ethics. And it *is* true, as utilitarians contend, that the consequences of one's actions are an important part of ethics. 2) Each approach is able to benefit from the defective nature of the other: so long as rationalism is understood as the only possible approach to ethics, then, to the rationalist, deontology appears to be the only alternative to utilitarianism, and vice-versa. So deontologists can strengthen their appeal by pointing out the obvious defects in utilitarianism (it ignores principles), while utilitarians do the same by noting the obvious defects in deontology (it ignores consequences).

In my view, deontology is preeminent, utilitarianism is useful for subordinate, or secondary reasons only. Let us consider the case of the all-powerful Martians who want to embarrass libertarian deontologists. They threaten that unless someone murders innocent person Joe, they will blow up our entire planet, and Joe along with everyone else will perish. Here, there is a conflict between the two: utilitarianism clearly indicates that someone kill Joe; he is going to die in any case. Saving the entire populace will bring more utility than will the murder of Joe create disutility. In contrast, deontology, at least the libertarian version thereof, maintains that murder violates the NAP, the core of this philosophy. What to do? We know, from the utilitarian perspective, that adhering to the NAP, and allowing all earthlings to perish, is a non-starter.⁴ So, we engage in a sort of act of intellectual fudging. We know the right answer, courtesy of utilitarianism: kill Joe and save the world. But, we also want to adhere to the NAP. The solution is, we interpret libertarianism not as a no-exceptions-allowed-never-ever-murder-innocents, but, rather, as punishment theory.⁵ The penalty for murdering Joe is thus and such. So, some hero kills Joe, we give him a ticker-tape parade and a medal, and then we impose the proper

castigation on him, presumably the death penalty.⁶ We thus have our deontological cake and eat it too. We achieve our utilitarian goal of saving the planet and all its inhabitants, and also are able to adhere to rights-based libertarianism.⁷

In contrast, utilitarianism falls victim, quite easily to the utility "monster." This worthy, a cannibal, greatly enjoys eating people, to a much greater degree than we all lose utility from being thrust unwillingly into his maw. The usual utilitarian response to this is that the "happiness units" of all people are equal. But there is never any justification offered for why we should buy into this patently disingenuous response.⁸ If utility is the be-all and end-all of political philosophy, we cannot gainsay this utility monster, and, with him, or it, the same end-of-the-world's human population as in the previous example. Only now, without deontology, there is no way to save the day. We may not kill this creature, whatever he is, because we stipulate that his utility outweighs all of ours. I emerge from these considerations with the conclusion that utilitarianism is at most a junior partner in proper libertarian theory, with deontology functioning as the CEO. If there are indeed two wings on the libertarian airplane, one takes great precedence over the other; the utilitarian one is vestigial at best.

The next fascinating issue to arise from this exchange is Callahan's assertion that "Block goes on to claim that it is somehow *illogical* to argue that rights claims can conflict with one another." He repeats this charge several times.⁹

The difficulty, here, is that I never in a million years said any such thing. Note, my debating partner does not quote me as maintaining this. Nor could he, because I never held that view; not in Block (2015) nor in any of my other publications. Indeed, I now explicitly renounce it. Of course rights *claims* can conflict. The courts are full of them. Any time anyone sues anyone else, there are conflicts in *claims* between plaintiff and defendant; otherwise, there would hardly be a confrontation. What I do hold, which sounds somewhat the same but is very, very different, is that *rights themselves*, not *rights claims*, can never conflict. This means, that when there are two contending parties, only one of them can be completely in the right.¹⁰ There is no clash in *rights*, only rights *claims*. It is one of the most important tasks of libertarianism to demonstrate whenever there is a seeming clash of rights, no such thing exists; that a thorough examination of the property rights involved will determine whose claim is correct, and whose is incorrect.

The example to illuminate this disagreement we have been battling around with each other, Callahan and me, is the case of the trespasser on the 15th story flagpole and its owner.¹¹ In

my view, this is a clear cut case. The property rights belong to the latter, and that is the end of the matter, the fact that the (innocent) trespasser will perish is irrelevant. Libertarians should not be in the business of trying to determine which way the utilities lie; whether the trespasser will suffer more if he dies, than will the flagpole owner if he is allowed to hand-walk down the pole and then enter into her apartment against her will. But, says Callahan “the person clinging to the balcony flagpole, in the scenario presented by Block that I cite in my original paper, has a right to life, while the person whose balcony flagpole is being clung to has a right to her property” and “Justice requires *balancing* these claims; whereas Block’s *unjust* solution to the conflict allows the balcony owner’s rights claims to run roughshod over that of the person merely trying to save her (sic)¹² own life.” Callahan also asserts:

Block attempts to answer the charge that shooting the fall victim if she (sic) attempts to climb off of the balcony flagpole is an absurd elevation of the right to property over the right to life by noting:

Suppose that this woman with the gun was raped only the day before by a man who resembles the flagpole holder. She is in not unreasonable fear of further bodily injury, and even death. Who is Callahan to deprecate her subjective assessment of the situation in which she now finds herself?

Why in the world does Block think I deprecate this assessment? In our legal tradition, the fact that the person clinging to the balcony looked just like the property owner’s recent rapist would undoubtedly be taken into account in deciding whether or not the property owner is guilty of murder.

There are difficulties here. First of all, minor point, there is no “right to life,” at least not under libertarianism. This is a positive right, and there is no such thing in the vernacular of this philosophy. There are no rights to food, clothing or shelter either. Rather, as in the case of the so called “right to life,” they are all attempts to claim the property belonging to other people. All rights imply obligations. If I have a right not to be murdered, raped, stolen from, then you have an obligation not to perpetrate any of these crimes on me. However, if I have a right to life, food, clothing or shelter, then the logic of the argument implies that you have an obligation to supply

these things to me. But that would make you a slave of mine, a position hardly compatible with libertarianism.

Second, I claim anew that this author is indeed deprecating the rights of the flagpole owner. How so? By “taking into account” in some sort of balancing act her fears of another rape, and his certain death if he is relieved of the support now given to him by the flagpole. This is a deprecation compared to the open and shut verdict that there is no rights conflict, that the entirety of the rights belong to the property owner and none to the trespasser. Third, there is no such thing as “the ... elevation of the right to property over the right to life.” This is just as problematic as saying that the streets belong to the people, not to the cars. Whoever is it thought that occupies automobiles other than different people? In the flagpole case, what is in contention is not property rights versus life rights. The latter concept is an entirely invalid one, as we have just seen, since it is part and parcel of positive rights, necessarily anathema to libertarianism.

Callahan waxes eloquent about the “subjective assessment” of the situation on the part of the flagpole owner and urges us to ask, “Was it *reasonable* for the property owner to feel threatened by the person hanging onto her balcony?” This is entirely irrelevant. On the contrary, the flagpole owner has the entire right to determine who occupies her property and who does not, and the reasonableness of her assessments of the utilities involved is entirely beside the point. Why did I mention in Block (2015) her fear that she would be raped again and perhaps even murdered this time since the trespasser resembles the criminal who brutalized her in the past? I did so only in order to supply a motivation for what would otherwise appear to be a very callous act. But, she has the right to remove the trespasser¹³ simply because she owns the property and for no other reason whatsoever. I of course fully and enthusiastically agree with my learned colleague that “it is fundamentally *unjust* to kill people simply on the basis of unfounded fears that they might conceivably be a threat.” But to say this is to wrench our discussion entirely out of context. We are simply not discussing murdering people because they look at you the “wrong way,” or any such thing. Rather, we are attempting to apply a basic building block of libertarianism, private property rights, to a complicated situation. The flagpole owner is justified in removing the trespasser from the property he is perched upon not because he looks like a threat, but simply because she owns it. Her home, including the flagpole, is her castle, and she and she alone has the sole right to determine who may benefit from their presence on her premises, and for any reason, or no reason at all.

Let us now consider gentrification in this context. Here, rich people buy up properties, and evict poor renters. Some of the latter have been in these domiciles for years. They have formed roots in the community. They have friends there. Some of these targets of gentrification might even commit suicide were they to be booted out of their familiar surroundings. Should we not consider their utility when forming public policy to deal with this threat against their “rights” to continue to live where they have been living for decades in many cases? To be sure, the new owners also have “rights,” property rights in this case. If we were to extrapolate from Callahan’s version of libertarianism, we would have to “balance” these different “rights” one against the other. We would not want to be too callous, after all. Rent control, particularly coupled with “tenant’s rights” prohibitions against eviction, is the main enemy of gentrification. With this law on the books, rich people can still purchase residential rental units in the targeted area alright, but they may not displace the present occupants. Perhaps, if the gentrifiers were using their new real estate only as *pieds-à-terre*, Callahan’s “balancing” would veer in the direction of strict rent controls. No evictions would be allowed, period. On the other hand, if these new owners were more “deserving,” for example, wanted to use the real estate claimed by both parties as their main residence, the rent controls might well be less severe. For example, it would allow the gentrifier to evict at least one tenant, to make way for his occupancy.

Needless to say, these sorts of Callahanian considerations are 180 degrees at odds from libertarianism. In that philosophy, there is no “hard work” of “balancing”¹⁴ rights when they are incompatible with one another. Rather, we instead engage in our “obsession with achieving easy, deductive answers to conflicts.” We “easily” rule that the gentrifiers, as the legitimate owners of the property in question, should be the sole determiners of how it shall be used. The flagpole is but an extreme case of this scenario. Private property rights *uber alles* is the libertarian response to these conflicts, whether they concern flagpoles or gentrification.

Next, consider the case of the police seemingly violating the rights of an innocent person. States Callahan (2015):

Similarly, Block mistakes my case against police torture of suspects as turning on the utilitarian results of such torture; that is all wrong: I contend that it is *unjust* for law enforcement officials to torture suspects, even when it is absolutely clear to those officials that the suspects are guilty. Every human being is worthy of respect for their human person, and no one, whatever

they have done, is *ever* justly tortured. The fact that allowing such torture produces bad results is not the *reason* that torture is unjust; it is *evidence* that it is unjust.

Again I must part company with my learned friend. Here is what I said about this issue in Block (2015):

Callahan’s (2012) next attempt to show that rights do conflict, and/or that Rothbard’s deductivist libertarianism cannot be accepted, is the view of the latter that *if* the police engage in brutality against a suspected criminal who later is proven to be murderer, then they are not themselves guilty of violating the non aggression principle (NAP) of libertarianism, since they have not battered an innocent person. Callahan (2012, p. 8) rejects this line of reasoning on the ground that there is a “practical downside of permitting police torture so long as the tortured party is ultimately convicted, which is that it gives law-enforcement officers a strong motive to frame anyone they have tortured.”

This is my response to this point made in Callahan (2015). Let us note but two things here. First minor point, how did we get from “brutality” to “torture?” Surely, the two are rather different. The former includes the latter, but much else besides. That is, there are a myriad of acts of “brutality” that are less obnoxious than “torture.” A punch in the nose for instance may well be brutal, but it is difficult to equate this with torture. Second, and more important, the situation is not that it is “absolutely clear to those officials that the suspects are guilty.” They may be wrong, in which case their act of brutality, not torture, was, Callahan and I would agree, wrong. But suppose that the victim of the brutality, not torture, was indeed guilty.¹⁵ Then, can it be said that an innocent person was brutalized? Of course not. Suppose A fires a pistol at random, a very dangerous act to be sure. But, he is lucky; A’s bullet hits a murderer, B, who at that exact moment is engaging in this despicable act, and kills him. Thus, A saves the life of innocent person C, who otherwise would have been murdered by B. What can we now say about A and his random spraying of a bullet? Is A guilty of murder? Of course not. If anything, he is a hero. He did not kill an innocent person; he saved one. Yes, A killed someone, B, but he did not murder him.¹⁶ It cannot be denied that A is very lucky in this case, and might be well-advised to cease and desist from such performances in future. But this time he did not implement an “unjust act,” contrary to Callahan. Note, I mentioned in Block (2015), a “practical downside” such as

bad motives for law-enforcement officers, and characterized these as utilitarian considerations. Callahan (2015) denies this, but the grounds upon which he makes this determination are unclear to me. He also avers that “it is *unjust* for people to be framed by corrupt cops.” Who could argue with that? Not I. But, I do not see the relevance of that since we are not discussing corrupt cops, but rather policemen who do not brutalize innocent people; rather, they do so to *criminals*. Is there to be no legal difference for libertarians between initiating violence against the guiltless and the guilty? Perish the thought.

At this point, Callahan fastens upon Rothbard’s analysis of the obligation to feed babies. Here, again, his error is based on positive obligations, of which there are none, at least not for libertarians. My debating partner writes about his “horror at the Rothbardian idea that parents ought to be able to starve their own children to death without consequence.” Does Rothbard say this? Not at all. This is Rothbard instead brought to us through the intermediation of Callahan. What, then, did he write on this topic? Yes, Rothbard (1998, p. 101) did reject the notion “that parents should have a legally enforceable obligation to keep their children alive.” This, presumably, engendered the “horror” in Callahan. However, Mr. Libertarian (1998, pp. 103-104) also averred:

Now if a parent may own his child (within the framework of nonaggression and runaway-freedom), then he may also transfer that ownership to someone else. He may give the child out for adoption, or he may sell the rights to the child in a voluntary contract. In short, we must face the fact that the purely free society will have a flourishing free market in children. Superficially, this sounds monstrous and inhuman. But closer thought will reveal the superior humanism of such a market. For we must realize that there is a market for children now, but that since the government prohibits sale of children at a price, the parents may now only give their children away to a licensed adoption agency free of charge. This means that we now indeed have a child-market, but that the government enforces a maximum price control of zero, and restricts the market to a few privileged and therefore monopolistic agencies. The result has been a typical market where the price of the commodity is held by government far below the free-market price: an enormous “shortage” of the good. The demand for babies and children is usually far greater than the supply, and hence we see daily tragedies of adults denied the joys of adopting children by pry-

ing and tyrannical adoption agencies. In fact, we find a large unsatisfied demand by adults and couples for children, along with a large number of surplus and unwanted babies neglected or maltreated by their parents. Allowing a free market in children would eliminate this imbalance, and would allow for an allocation of babies and children *away from* parents who dislike or do not care for their children, and *toward* foster parents who deeply desire such children. *Everyone* involved: the natural parents, the children, and the foster parents purchasing the children, would be better off in this sort of society. In the libertarian society, then, the mother would have the absolute right to her own body and therefore to perform an abortion; and would have the trustee-ownership of her children, an ownership limited only by the illegality of aggressing against their persons and by their absolute right to run away or to leave home at any time. Parents would be able to sell their trustee-rights in children to anyone who wished to buy them at any mutually agreed price.

This may sound “obnoxious” to Callahan, but not to the present author. Rather, I appreciate Rothbard’s efforts to save and protect children, and his insight that it is the all-loving government which is the villain of the piece. But Callahan would have none of this. In his view, unless the parent is compelled by law to be responsible for a positive obligation, Rothbardian libertarianism must be rejected, at least on this point. I responded (Block 2015) that in this view, the parents have an obligation not to feed the child, but to notify others (the orphanage, the hospital, the church, etc.) that they no longer wish to do so. Callahan rejects this. He says:

Block’s argument here is simply that I addressed Rothbard’s argument as he wrote it, rather than taking up the numerous attempts to patch over how horrific the conclusion of that argument is, as Rothbard initially framed it. I congratulate Block and others for recognizing the problem and for their attempts to save Rothbard from the condemnation his original argument rightly deserves...

But, no. There is no “patching up” going on here. Instead, there is an attempt on my part and other Rothbardians I cited to make explicit which is only implicit in Rothbard’s treatment. Consider the six-month old child. Rothbard maintains he has a right to “run away” from unsuitable parents. However, this is physically impossible. A baby that

young can barely sit up, let alone walk. And even if the infant could, somehow, perambulate in this manner it would be unmanageable for him to “leave home” under his own steam. But, if he has an “absolute right to run away or to leave home at any time” as Rothbard maintains, surely other people may help him do so. If so, they must be notified; or, at the very least, private organizations such as “friends of babies” must be allowed to inquire of all parents if they are no longer feeding their infants.¹⁷ This is in addition to the reasoning offered in Block (2015) along the lines of if the unwilling parents do not inform others of this type of situation, they are guilty of the libertarian crime of forestalling: keeping property to themselves that they have not, or in the case of an infant, no longer homesteading, or guarding.

Callahan states: “Oddly, despite apparently lacking the time to read my entire paper, Block did have time to make up objections to libertarianism himself. See, for instance, his whole digression about Okinawa, Japan, and China. What this has to do with the many arguments I actually made is unclear to me.”

First, it is an illicit deduction from the fact that I did not comment on his entire paper that I did not read it. As far as I know, Callahan has not commented on every jot and tittle of Smith (1776). Does this mean he has not read it in its entirety? Hardly. Second, how can this be a “digression” when Callahan (2012) initially mentioned Okinawa, Japan, and China? I was merely commenting upon the point he made about them. Indeed, in Block (2015) I explicitly quoted him on this matter.

Last but certainly not least, Callahan delivers what he considers to be a knockout blow in our little debate. He writes:

However, in his eagerness to supply his own libertarian counter-examples that he can then refute, Block actually undermines his whole case with his example of the niqab-wearing witness. A Muslim woman’s right to free exercise of her religion suggests that she should be able to wear such a garment wherever she is. But if she is in court accusing another person of some crime or tort, the accused has a right to “face” his accuser. Here is a clear-cut example of rights conflicting, offered by Block himself! His “handling of this obvious case of a rights conflicting (sic) is to assert that anarcho-capitalist courts will resolve this conflict in various ways, and that this result will be better than that achieved by statist courts. Well, perhaps he is right about this: my paper was not intended to decide between various judicial systems. But if Block is correct, it is because

anarcho-capitalist courts are *better at resolving rights conflicts* than are statist courts! After all, if there were no rights conflict here, and we could just deductively arrive at the “correct” result, then all anarcho-capitalist courts should reach the exact same, deductively correct, resolution to the issue. By admitting that just courts might resolve this issue in different ways, Block has given away the entire game.

There are several flaws in this charge. For one thing, “A Muslim woman’s right to free exercise of her religion” might *suggest* “that she should be able to wear such a garment wherever she is” but that is a mere suggestion, very far from a basic premise of libertarianism. Certainly she may not do so in my house, if I object to her wearing this apparel. A “right to free exercise of . . . religion” means, merely, that it would be unlawful to prevent her from wearing the niqab on *her* property, or on the premises of anyone who welcomes such garb. Callahan seems to forget libertarianism 101 which is predicated upon the fact that private property rights are central to the entire enterprise. Nor is there any “right” for anyone to “face” accusers. It would appear that Callahan makes up rights as he goes along. The only right, the single solitary right in libertarianism is the right not to be threatened or aggressed against, e.g., the NAP. “Facing” accusers is a not unreasonable *technique* for ferreting out the truth,¹⁸ but, surely, it is not a basic libertarian right. As well, this goal can be achieved in other ways too.¹⁹ Surely, I have not myself mentioned any rights “conflict” when there are no “rights” on either side of this controversy. Nor is the fact that anarcho capitalist courts might not agree with one another as to whether a witness may wear a niqab even touch upon whether or not rights conflicts exist. If they disagreed, they would merely be diverging on the best technique for ascertaining the truth.

Of course, no true Rothbardian maintains that *all* of law may be deduced from basic premises such as the NAP and private property rights. There are all sorts of lacunae in a legal system based only on these basic premises; they are (crucially important) guide posts only. For example, there is the continuum problem. Private courts must decide on the statutory rape age; they must rely upon the proverbial “reasonable man” to determine whether an act of violence is one of offense or defense. Even when matters of fact are not in dispute, new technology often requires that the NAP be applied to entirely new domains, and even with the best will in the world, and great intelligence, private courts might not fully agree with each other on how the libertarian principles are

to be applied. There is no more eminent Rothbardian than Hoppe (2015) who maintains:

This does not mean that, with the discovery of the principles of natural law, all problems of social order are solved and all friction will disappear. Conflicts can and do occur, even if everyone knows how to avoid them. And, in every case of conflict between two or more contending parties, then, the law must be *applied* – and for this *juris-prudence* and *judgment* and *adjudication* (in contrast to *jurisdiction*) is required. There can be disputes about whether you or I have misapplied the principles in specific instances regarding particular means. There can be disagreements as to the “true” facts of a case: who was where and when, and who had taken possession of this or that at such and such times and places? And it can be tedious and time-consuming to establish and sort out these facts. Various prior-later disputes must be investigated. Contracts may have to be scrutinized. Difficulties may arise in the application of the principles to underground resources, to water and to air, and especially to flows of water and air. Moreover, there is always the question of “fitting” a punishment to a given crime, *i.e.*, of finding the appropriate measure of restitution or retribution that a victimizer owes his victim, and of then enforcing the verdicts of law. Difficult as these problems may occasionally be, however, the guiding principles to be followed in searching for a solution are always clear and beyond dispute.

III. HUDIK

This author starts out on a sound footing when he writes “that the preference structure describing Rothbard-Block libertarianism is but one of many possible logically consistent preference structures.” This is eloquently put, true, and unobjectionable. There are indeed many possible preference structures, all of which are logically consistent. For example, the view that Smith should be king, and all the rest of us his subjects. There is no logical inconsistency here, even though such a basic premise is about as far from libertarianism as it is possible to be.

Then, in his analysis, Hudik offers us a set of indifference curves, in an attempt to elucidate his thinking. I find this somewhat unfortunate, in view of the scathing rejection of this technique of the part of Austrian economists. But that is

a minor point; indifference curves are merely a vehicle to express his views, which can be fully articulated without them.

This scholar asks: “Why should law disallow substitution between libertarian justice and other commodities?” My answer is, Because that is what *libertarian* law is all about. Suppose it were to consider other goods, and weigh them against justice. Then, and to that extent, it would no longer be *libertarian* law. It would become something else. Maybe, quasi or semi or demi libertarian law. Perhaps something else entirely different: fascist law, or socialist law or utilitarian law. But, whatever it would be, it would no longer be *libertarian* law, since it stood by while *justice* was diminished, in an attempt to attain other goals.

Next is an attack on my flagpole example. In Block (2015) I maintained that the flagpole owner had an absolute right to control this bit of private property, even if it resulted in the death from falling from the 15th floor of an otherwise innocent trespasser. Here is my second debating partner’s response:

However, Block’s argument is a *non sequitur*: a violation property rights in one situation does not imply that in order to be logically consistent one has to violate property rights always. To use an analogy with consumption behavior, if you drink coffee in the morning you do not have to drink coffee the whole day to preserve logical consistency of your choices. In some situation you prefer coffee to tea, while in other situation you prefer tea to coffee (for instance because marginal importance of coffee diminishes with its quantity). Likewise, a legal system may sometimes sacrifice libertarian justice to other commodities, and vice versa at other times, without compromising logical consistency.

I cannot see my way clear to agreeing with this assessment. The point is, *if* the flagpole owner’s rights are violated in this one instance, and *if* this becomes the law of the land in *all* such cases, then, indeed, “in order to be logically consistent one has to violate property rights always.” Drinking tea and coffee are quite irrelevant. Suppose that the flagpole owner’s rights are violated in this one instance so as to accommodate the utilitarian benefits to the trespasser. Why, then would this legal finding not be employed in all other such cases? If it is not, then we must say goodbye to the rule of law.²⁰

Let us take another case. Here, the dispute is between a property owner and again a trespasser, but in this scenario the latter will not die if he is forced to relinquish his control over someone else’s property. Rather, he will suffer, only,

a minor diminution in wealth, or to put this in Hudikian terms, be forced to occupy only a slightly lower²¹ indifference curve.²² Hudik might opine that in such a situation the legal nod should indeed go to the property owner, but not in the flagpole case, since a far greater penalty will be imposed on the trespasser. But this opens up a large can of philosophical worms. How much inconvenience is required to overturn property rights? What about the problem of lack of interpersonal comparisons of utility? And, most damning in terms of the present dispute, logical inconsistency will be smuggled into the law if property rights cases are treated differently, based upon the perceived degree of harm to the violator of them. There will truly be an end to the rule of law if defendants' claim of harm can override it.

I previously said that Hudik made a valuable contribution to this dialogue, and no words of mine were ever truer. States this author:

Callahan's critique of Rothbard and Block in my view misses the main point." And "I agree with Block (2015, p. 12) that Callahan's critique does not kill the Rothbard-Block version of libertarianism.

However, Hudik also avers:

If one thinks that law should reflect single-value or lexicographic preference structure, so be it. But there is also nothing irrational about convex preference structure which allows for substitutability between libertarian justice and other goods. The principle *de gustibus non est disputandum* is perfectly applicable here. The only way how Rothbard-Block version of libertarianism can be "killed", is that no one finds it attractive. My aim was to show that one may find it unattractive without accepting logical inconsistency.

In contrast, I do not see this as a matter of *de gustibus non est disputandum*. Yes, this applies full well to the choice between coffee and tea. There, taste is all. But we are not now discussing anything of this sort. Rather, the object of our contention is, What is libertarianism? I cannot see how Hudik has overturned the Rothbardian emphasis on the NAP, in its unadulterated form, not contaminated by considerations of utility.

Let us consider one further case in this latter regard, mentioned in Block (2015) but ignored by Hudik:

A black man has been falsely accused of raping a white woman in Alabama in 1920. He is in jail, awaiting trial. A white lynch mob demands that the sheriff hand over his prisoner to them. The lawman refuses and the mob attacks. The sheriff, the prisoner, most of the mob, and dozens of innocent bystanders die in the ensuing melee. Justice is clearly on the side of the jailor's decision. It is unjust that the innocent black prisoner be lynched for a crime he did not commit. But social peace is incompatible with justice in this case.

It should by this point be clear to all libertarians that justice requires the sheriff to fight the mob to the best of his ability. "Justice though the heavens fall" should be the motto. Any compromise with this principle in behalf of utilitarianism undermines liberty and libertarianism. Hudik's indifference curve analysis, his willingness to compromise with pure libertarian principle, bespeaks either his misunderstanding of this philosophy or his rejection of it.

IV. CONCLUSION

Callahan (2015) and Hudik (2015) to the contrary notwithstanding, I conclude that the views on libertarianism of Rothbard, and my Block (2015) support of the latter, remain unimpeached. Callahan (2015) and Hudik (2015) both make important contributions to the libertarian philosophy, but, there are still no rights conflicts in this perspective, and libertarianism a la Rothbard has not been undermined by either of them.

NOTES

- 1 Unless otherwise indicated, all quotes to Callahan emanate from this one publication of his.
- 2 I must now say "ex-libertarian" since he no longer espouses these views.
- 3 See Block and Callahan, 2003; Block, Barnett and Callahan 2005.
- 4 Although even at this level of analysis, problems crop up, since we are now relying upon illicit interpersonal comparisons of utility, and improper cardinal, not proper ordinal utility. For more on this see below.
- 5 In the view of Rothbard (1998, p. 88, ft. 6): "It should be evident that our theory of proportional punishment—that people may be punished by losing their rights to the extent that they have invaded the rights of others—

- is frankly a *retributive* theory of punishment, a “tooth (or two teeth) for a tooth” theory. Retribution is in bad repute among philosophers, who generally dismiss the concept quickly as “primitive” or “barbaric” and then race on to a discussion of the two other major theories of punishment: deterrence and rehabilitation. But simply to dismiss a concept as “barbaric” can hardly suffice; after all, it is possible that in this case, the “barbarians” hit on a concept that was superior to the more modern creeds.”
- 6 But not necessarily so. The heir of Joe may forgive his heroic murderer, given these extenuating circumstances.
 - 7 The only time this breaks down is if the Martians are really intent upon undermining libertarian theory, curse them (is it still politically correct to bad-mouth Martians?) They can beam down yet another message to Earth stating that if we follow libertarian principles in this or any other matter, they will blow us up. Only then can they drive a wedge between libertarian utilitarians and libertarian deontologists. But, note have far down this philosophical garden path the Martians (curse them!) have to travel in order to achieve their evil ends.
 - 8 Of course, this entire discussion makes no sense, since there is no valid way to compare utility interpersonally, or, rather, inter-creaturally.
 - 9 Callahan mentions the importance of doing “the hard work of actually trying to achieve real world justice by careful balancing of competing rights claims.” For one thing, at issue are not rights *claims*, but “competing rights.” For another, he never quite tells us the principles by which such “balancing” may take place.
 - 10 Of course, each party can be partially in the right and partially in the wrong.
 - 11 The latter wishes to remove the former from her property, which implies he will drop to his death.
 - 12 In the original depiction of this scenario, a man hangs on to the flagpole, and the woman wishes him not to do so.
 - 13 Always in the gentlest manner possible, but in this case that option is foreclosed by stipulation
 - 14 States Callahan: “And Block’s dismissal of such concerns does not demonstrate his (or Rothbard’s) greater commitment to justice: instead, it demonstrates their obsession with achieving easy, deductive answers to conflicts, rather than doing the hard work of actually trying to achieve real world justice by careful balancing of competing rights claims.”
 - 15 As I stated in Block (2015), and now add emphasis to the word “proven”: “the police engage in brutality against a suspected criminal who later is *proven* to be murderer.” This is not at all the same as Callahan’s “when it is absolutely clear to those officials that the suspects are guilty.”
 - 16 Murder is unjustified killing.
 - 17 There would be financial incentives to engage in such inquiries in the free enterprise system in which babies may be sold. Or, rather, given Callahan’s sensibilities and the fact that I have no wish to outrage him, where the right to parent or guard children can be for sale.
 - 18 Indeed, it is a very good technique for so doing. But there are others, too, none of which constitute basic rights in the libertarian philosophy. For example, cameras, witnesses, posting bonds, reputation, etc.
 - 19 And none of them constitute rights either.
 - 20 The rule of law is a necessary, but not sufficient, condition for just law. It only means that the law will determine judicial findings, and nothing else. This is a necessary condition, for if it is not followed, as advocated by Hudik, then arbitrariness seeps in to the legal system. It is no longer predicated upon the non-aggression principle (NAP) the bedrock of Rothbardian libertarianism. It is not a sufficient condition because in addition to being law abiding, a libertarian legal system must be *just*. For example, Nazi law could have been, and probably was, based on the rule of law. But the law was that Aryans have rights, and none others do. This is clearly unjust, for no relevant differences have ever been put forth to justify such a distinction. The Nazis would say that everyone else is vermin, but this will hardly suffice. Another example: Communist law. Here, the proletariat was in the right, and the bourgeoisie was in the wrong. Here a distinction was put forth; the former are the workers, and the latter the employers, and firms always exploit employees. But this is erroneous, and must be rejected on that ground alone, for the employer-employee relationship is a voluntary one, and the latter are made better off by this relationship, otherwise they would not enter into it.
 - 21 See his figure 3.
 - 22 How many utils will he lose? To ask this question is to see the difficulties of the indifference curve technique. There is no such thing as a util, and drawing this as the difference between two curves only places a veneer of a supposedly sophisticated approach over a fallacious economic argument.

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REVIEW

The Evolution of Everything: How New Ideas Emerge by Matt Ridley

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Ridley, Matt. *The Evolution of Everything: How New Ideas Emerge*. New York: HarperCollins, 2015, 360 pages. ISBN: 978-0-06-229600-9. Hardcover \$28.99.

We are all Lucretians now.

Or at least according to Matt Ridley in *The Evolution of Everything* we should be. For Lucretius was one of the first evolutionary materialists who consistently applied an evolutionary outlook to everything, from nature to human societies. Which is precisely what Ridley attempts to do in this tour-de-force of natural and social systems: rigorously apply the logic of evolution to understanding a variety of natural and social systems, and show where people are still engaging in creationist thinking.

For the most part he manages to succeed in doing exactly what he sets out to do. The book is a relentless barrage of example upon example of his thesis. Every example ends up being compared, directly or (if you know your Hayek) indirectly to free markets. A good example of this can be found on p. 64, in the chapter on genes, when he says that “Each gene plays its little role; no gene comprehends the whole plan. Yet from this multitude of precise interactions results a spontaneous design of unmatched complexity and order.” This is practically Hayek’s description of how free markets work.

This is perhaps less surprising if we understand that, as Ridley demonstrates, Adam Smith was an early evolutionary thinker, applying evolutionary thinking to both morality in *The Theory of Moral Sentiments* and the economy in *The Wealth of Nations*. His influence on Darwin was at least as important as Malthus’ work on population, and in many ways Darwin merely came up with a special theory of evolution rather than a general theory of evolution, which was in the process of being established through the works of many thinkers, though never quite explicitly stated as such. Indeed, though Ridley strongly points us in this direction, and though it’s been a working theory for such thinkers as F.A. Hayek and Michael Shermer, one could make the argument that a general theory of evolution has still yet to be truly established. What stands in the way of a general theory is that humans seem programmed to engage in what is called

the “intentional stance,” meaning we see intention any time we see patterns (pp. 256-7). While this is a good way to survive 10,000 or more years ago—better to mistake that movement for a lion than to miss the lion—it results in a variety of cognitive errors, including a tendency to think that any time one sees order, there must be an orderer of some sort. The left make fun of the creationists for doing this with biology, but one could just as easily make fun of the left for doing this when it comes to educating our children or in their enthusiasm for economic planning.

One reason I say Ridley only points us in the direction of a general theory is that, despite his efforts to do so, he still manages to fail to fully apply evolutionary logic. Not through the intentional stance, but by sometimes wavering on the relentlessness of his application of evolutionary principles. For example, in his criticisms of the “anthropic principle,” Ridley fails to apply the principles of evolution to physics itself. We can explain why it is “there do seem to be remarkably fortuitous features of our own universe without which life would be impossible” (p. 18) through evolutionary processes and emergent properties. For example, given the evidence that the speed of light has changed over time (Reich 2004), meaning the strength of the electromagnetic force changed, we should perhaps wonder why it is that the laws of physics have seemed to have “settled in” to where they are now. Those laws may have stabilized precisely because those qualities created stable systems, and those stable systems in turn reinforce those physical qualities/laws and stabilize them. Which is to say, natural selection at the quantum level took place, creating stable systems that could, in turn, engage in chemistry, further stabilizing those atomic systems. So it seems the universe itself has evolved over time, those interactions that gave rise to stable systems were selected for over time by other stable systems with which they could interact and stabilize more, and we thus have a universe able to create chemistry, life, and an intelligence that can wonder about all of these things.

We see this very process happening in biological systems, where complex systems are stabilized by the internal logic of the system itself. This is no doubt how life itself emerged, as a way to stabilize certain organic chemical processes. This stability also then allows them to change. Ridley points out that complex systems can evolve while surviving due to massive redundancy built into those systems (p. 48). This is what helps to make them ‘anti-fragile.’ Indeed, one of the things nature seems to select for is anti-fragility—which makes sense, since fragile systems would fall apart too quickly to have their traits passed on. That is why we see extreme redundancy built into natural systems, from physical to biological systems. The brain, too, is an organ with such massive redundancy that most brain trauma can be routed around over time. This fact demonstrates that objections by socialists about the waste and redundancy of capitalism rather miss the point. Were we to remove all that apparent waste and obvious redundancy, the system would become fragile and eventually collapse. As has every socialist economy. If we were to remove the redundancy from an ecosystem or from a eukaryotic cell (in the latter by, say, reducing all of the mitochondria to one), we would create a system wherein the least bit of stress would overwhelm the system such that it would very quickly collapse.

Ridley does in fact make this point in his support for the “selfish gene” thesis: “It makes more sense to see the body as serving the needs of the genes than vice versa. Bottom-up” (p. 66). In other words, the purpose of the cell is to stabilize, protect, and perpetuate genes (rather than the purpose of the gene is to do something for the cell/organism). The cell is a way to protect and perpetuate a certain kind of information (gene) rather than an end in itself. Equally, the purpose of a given institution is to stabilize, protect, and perpetuate the individuals within that institution rather than the institution using the person. A firm or other institution is a way for individuals to achieve their goals. If we take this to its logical conclusion, one should perhaps question the purpose of incorporation and limited liability, as these are designed to essentially lay blame on the organization rather than the people who are using that organization to realize their goals. It’s rather like holding responsible the cells for genetic diseases.

At the same time, one of the points Ridley is keen to make is that individuals matter less than we like to think, and that the system/ecosystem/society is what matters most. This or that lion doesn’t really matter to the African savannah, though lions certainly do. Alexander Graham Bell was not necessary to invent the telephone, since it seems that it was

inevitable that it was going to be invented—as the fact that he only just barely beat Elisha Gray to the patent office. If Bell had had a cold that day, Americans would have spent decades getting their phone services exclusively through the Gray Telephone Company. Ridley provides example after example of inventions that were invented practically at the same time by different people in different places, each unknown to the other.

This seeming contradiction is resolved when we come to realize that in the first case, Ridley is really talking about a *taxis* that one develops to realize one’s goals (in this sense, a cell is a *taxis* in relation to the genes), while in the latter case, he is talking about a *cosmos* with a network logic that unfolds on its own. Organisms are not ecosystems, and vice versa. Organizations are not social systems, and vice versa. Cells and organisms are always “reacting to local effects” and in the case of cells, the responses to other cells results in the development of the organism (pp. 76-8). Equally, humans are always “reacting to local effects” and the responses to other humans results in the development of cities, economies, languages, technology, and a number of other social orders. Our environments affect the expression of our genes and the ways in which we interact with each other. Those environments are made up of other individuals (species/humans) interacting within and to create that environment, which in turn affects those interactions. Such a system is necessarily always changing, and “Darwinian change is inevitable in any system of information transmission so long as there is some lumpiness in the things transmitted, some fidelity of transmission and a degree of randomness, or trial and error, in innovation” (p. 78). “Humans innovate by combining and recombining ideas, and the larger and denser the network, the more innovation occurs” (p. 93)—a fact as true in nature (think of all the species in a tropical rain forest vs. a grassland on the same parallel) as in human habitations. Thus, cities are a hotbed for innovation, and always have been.

Given that Ridley makes a big deal about what he says is a tendency of people who make evolutionary arguments to suddenly make what he terms a “swerve” at the end, toward top-down explanations, it may be surprising to learn that he makes a handful of swerves himself, though not quite toward top-down explanations.

A good example involves his criticism of epigenetics. With epigenetics, the DNA is chemically marked in order to turn off certain genes, perhaps even certain chromosomes (i.e., one of the X chromosomes in women is turned off, with the result that half a woman’s cells express one X chromosome, the other half the other one). In recent years there

have been reports of environmental influences being passed on to offspring. The most notable example, to which he himself refers, is a study in which a short famine seemed to have effects passed on through several generations who had not experienced famine. Ridley notes, correctly, that in the germ cells the epigenetic markers are completely cleaned off the chromosomes so new patterns can be established in the developing fetus. If that is the case, how then can there be epigenetic inheritance? Here Ridley fails to take into account the environmental factors that play such an important role throughout the book. The uterus is the primary environment for the developing fetus, and that uterus is of course part of the woman's body. Since epigenetic patterns are being established in the developing fetus, and those patterns are being influenced by the cellular environment, and that environment includes the mother, it would be surprising if the uterine environment did not have some kind of influence on the establishment of epigenetic patterns. Which is to say, the epigenetic patterns the mother created in response to her own environment could be passed on to the developing fetus as part of the uterine environment. This would be consistent with all of the facts involved, and we wouldn't have to just dismiss a set that seemed inconvenient to one's theory (a tendency Ridley otherwise correctly criticizes).

Another inconsistency occurs when Ridley complains that the market "has a habit of encouraging wasteful and damaging extravagances, not least because it leads to the marketing of signals for conspicuous consumption" (p. 101). The market, as he noted elsewhere in the book, is merely a system of communication and cooperation, and cannot be blamed for its content. Indeed, Peter Turchin, in his book *War and Peace and War*, shows that conspicuous consumption of wasteful and damaging extravagances is not even remotely associated with the free market, but rather is a feature of elites' lifestyles through the millennia. The market makes what people want to buy, but the elites wanted and had these things well before the existence of modern capitalism—they only got them in different ways in the past. That is, free markets do not encourage extravagances and conspicuous consumption—elitism does. The same elites who, coincidentally, insist on top-down explanations and approaches. If anything, the free market transforms what were once extravagances and signals for conspicuous consumption into cheap, easily accessed goods for everyone. The cell phones available only for the wealthy in the 1980s have become almost ubiquitous pocket computers connected to the internet available to practically everyone. Which is one reason the elites hate the

free market. It surprises me that Ridley failed to realize this and, rather, fell for the standard anti-market rhetoric.

Finally, with chapters on the Universe, Morality, Life, Economy, Mind, Government, the Internet and many, many more, Ridley does not dedicate much space to fully developing his arguments; rather, he takes the approach of developing the evolutionary argument, which he then applies, with the help of a great many sources, to each field. As a result, many of the chapters mostly come across as summaries of others' works and as literature reviews. For example, his chapter on "The Evolution of Personality" is for all intents and purposes a summary of Judith Rich Harris' *The Nurture Assumption*, with a little on the heritability of IQ thrown in at the end. Given the purpose of this book, this problem is perhaps inevitable to some degree. After a while, the trajectory of each chapter tends to become a bit predictable, though for many of his target readers, that is perhaps necessary.

Overall, though, Ridley has written an excellent book for a general, educated audience. Perhaps it is a timely book. I think it's exactly what the world needs at this moment. Whether he will be successful at persuading anyone, however, is another matter. The intentional stance is a strong one, and is able to stare down evidence and reason. We have seen this regarding Ridley's last book, *The Rational Optimist*, and Steven Pinker's *The Angels of Our Better Nature*, which Ridley cites. Our evolved tendencies toward seeing intention, toward being pessimistic, and in expecting life to be a zero sum game are difficult to overcome. This is true of creationists on the right or on the left. Still, it is a book that needed to be written. And it is a book that needs to be read. Scientists keep discovering the world isn't as we evolved to understand it, and yet, over time, we have nevertheless come to understand this—and thus overcome our instinctual understanding of the world. We can learn. Hopefully, we will allow ourselves to be taught to see evolution everywhere, in everything. When we do, we will finally all be Lucretians.

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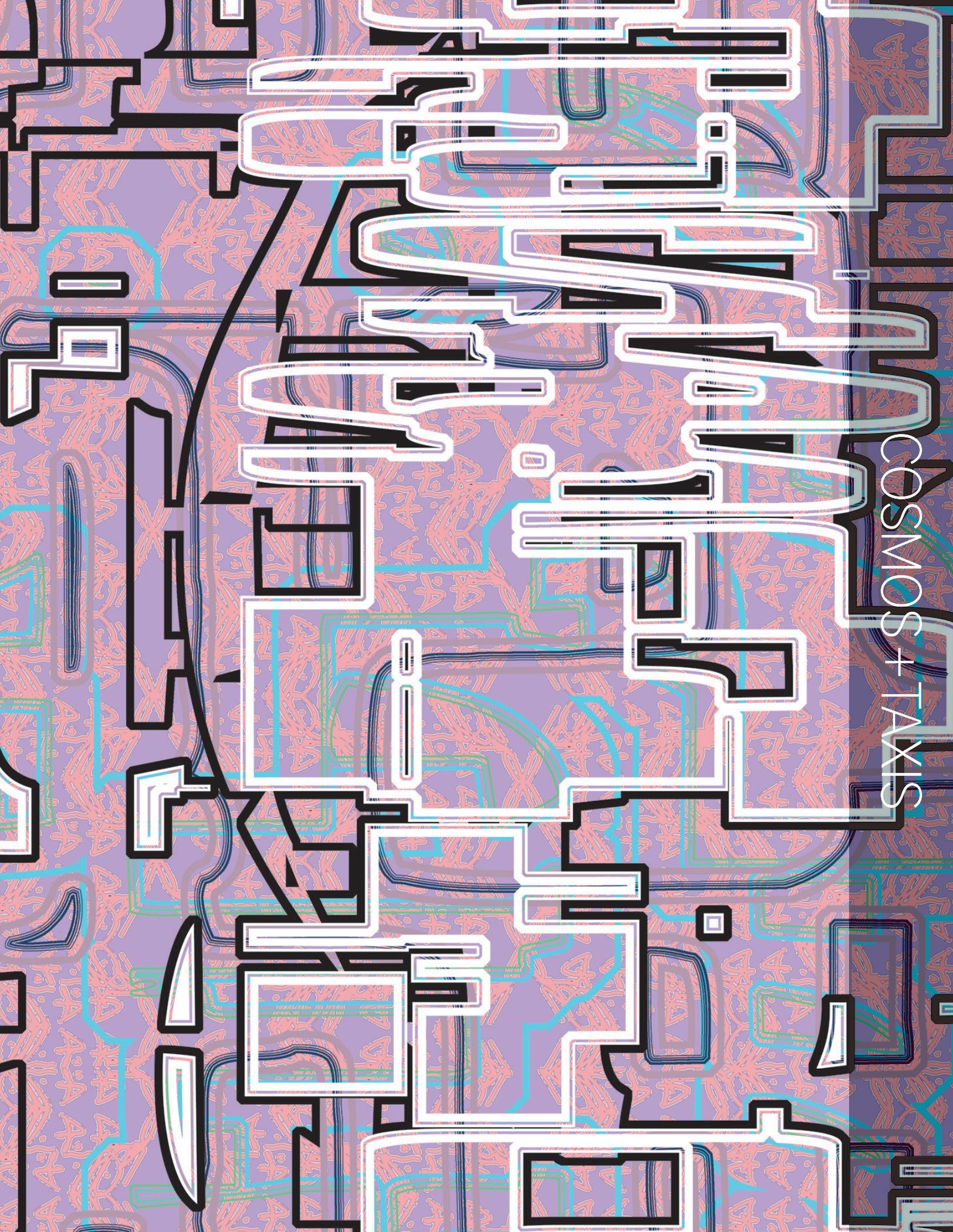
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