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DISCUSSION PAPER

Leibniz Institute of Agricultural Development in Central and Eastern Europe

EVOLUTIONARY INSTITUTIONAL CHANGE FOR SUSTAINABLE RURAL LIVELIHOODS IN CENTRAL AND EASTERN EUROPE

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1 INTRODUCTION

At the Berlin MACE (Modern Agriculture in Central and Eastern Europe) Conference in January 2007, I offered some general thoughts on the crafting of institutional arrangements to further the economic transformations now underway in Central and Eastern Europe. In that paper I observed that many countries are now in the "third wave" of institutional change (BROMLEY, 2007). The first wave began during the collapse of the old order starting around 1992. A decade later the second wave was induced by pressure to accede to the European Union. I observed that it now seemed appropriate to reflect on these two waves of forced institutional change. In other words, to what extent do these imposed institutional regimes reflect local needs and local preferences as we look into the future? More profoundly, to what extent do these imposed institutional regimes provide the basis for economic and political sustainability over the long run? I offered a general outline of the political and economic processes that are necessary to assure an ongoing process of institutional change that will conduce to the sustainability of economic reforms in the region. I called this the third wave of institutional reform in Central and Eastern Europe.

We know that the economies of Central and Eastern Europe began to experience a gradual "institutional thaw" as perestroika and glasnost spread outward from the Russian core of the former Soviet Union. In November 1989, with the fall of the Berlin Wall, the changes picked up speed, and by 1992 the old institutional regime had largely fallen away. These dramatic changes often left citizens longing for the old order. Then, when accession to the European Union became a possibility, yet another series of externally motivated institutional changes were imposed.

If economists are to contribute to the challenge of ensuring sustainable rural livelihoods in Central and Eastern Europe it will be necessary for us to undertake a profound reformulation in the prevailing theory of human action. Veblen located the core impediment to an evolutionary economics in the standard hedonistic conception of human action (VEBLEN, 1898). In the 1960s G. L. S. Shackle insisted that:

> Conventional economics is not about choice, but about acting according to necessity… Choice in such a theory is empty, and conventional economics should abandon the word… The escape from necessity…lies in the creation of ends, and this is possible because ends, so long as they remain available and liable to rejection or adoption, must inevitably be experiences by imagination or anticipation and not by external occurrence. Choice, inescapably, is choice amongst thoughts, and thoughts….are not given (SHACKLE, 1961, pp. 272-73).

Most economists continue to insist that means and ends are – and must remain – distinct. Those who study human action from outside of economics regard this as incoherent (DEWEY, 1910 (1997); DAVIDSON, 2001, 2004; JOAS, 1993, 1997, 2000; RABIN, 1998; RORTY, 1979, 1982, 1999). Indeed, Veblen recognized this problem over a century ago. In elaborating his theory of "cumulative causation," he wrote that:

> The economic life history of the individual is a cumulative process of adaptation of means to ends that cumulatively change as the process goes on, both the agent and his environment being at any point the outcome of the past process. His methods of life to-day are enforced upon him by his habits of life carried over from yesterday and by the circumstances left as the mechanical residue of the life of yesterday (VEBLEN, 1898 (1990), pp. 74-75).

It is in this light that I will develop the general outlines of a truly evolutionary economics. To do so we must start by recognizing that economics is the study of how societies organize themselves for their provisioning. It is from this start that we can begin to see the general contours of an evolutionary economics pertinent to the third wave of institutional change in Central and Eastern Europe.

2 HUMAN SYSTEMS AS PURPOSEFUL EVOLUTIONARY CONSTRUCTS

I situate the quest for an evolutionary economics in the thought process that engages individuals as we work our way through the demands and opportunities of an ever-changing social and economic environment. We must begin by comparing change in biological systems with change in human systems.

2.1 Change in natural systems

Biological systems – and their constituent parts – change over time through a process that rewards deviation from the norm. Variability is the source of "serendipitous fitness" in an environment that is itself undergoing continual change. Being in the majority has short-term advantages and long-term disadvantages. Change is the constant in the continual re-constitution of living organisms and their embeddedness in their specific ecological settings. And change is a close friend of variation.

Human systems are also buffeted by exogenous events that challenge "fitness." Here, the resultant is not drawn from – is not limited to – some random process that rewards deviance by accident. Rather, the difference is found in the "technology" of these two different systems. In natural systems the pertinent technology is the genetic architecture that explains (is the reason for) observed variation in the members (the species) of the particular community under study. Notice that this genetic architecture is not under the control of the individual members who embody a specific genetic constitution. No individual member of a natural community can be held accountable for evolutionary change in that community; each is but the passive carrier of a specific architecture. It is the genetic and phenotypic attributes that comprise the essential role of replicators of the members of the system projected into the future. Individual members of a biological community are in the majority – or they are at the tails – by virtue of the genetic and phenotypic composition of all other members of the same "community." Their general fitness is therefore a resultant, and their specific fitness is a function of which particular stochastic events in the on-going life of the community impinge on its members. Drought punishes and rewards rather differently from an early frost, or the appearance of some specific threat to the community in general, and more correctly to some (but not all) of its constituent parts. Those members of a particular genotype (and phenotype) in the community that manifest the "right" variation will survive while others, being less fit to the evolving settings and circumstances, will perish. The survivors comprise the gene pool for the next generation and therefore a particular community is continuously reconstituted under a new and evolving biological architecture. The natural world is always in the process of becoming.

We see here three essential properties of an evolutionary system – variation, selection (fit), and replication. If there is insufficient variability in the face of a specific threat, all members of that particular community will perish. But others will soon fill their ecological space. Nature, it is said, abhors a vacuum.

2.2 Change in human systems

In contrast to biological systems, which are properly understood in terms of function, human systems must be understood in terms of purpose. That is, an evolving biological system is functional in all of its pertinent parameters. A biological system is instrumental rather than teleological. On the other hand human systems change – evolve – in some purposeful way. We should not assume that there is, or could be, a clear and direct mapping between a single *a priori* purpose and the evolutionary trajectory of the constructed institutional architecture that constitutes human systems. But it would be correct to understand the general parameters of the evolutionary trajectory of human systems as the result of conscious thought and action dedicated to a continual re-constitution of the institutional underpinnings of the economy and the polity.

Do we understand those purposes? Do we know how to think of them in evolutionary terms? We must if we are to make progress in reconstituting economics as an evolutionary science. But a cautionary note is in order. Human systems, just as with natural systems, are always coming from something rather than going towards something. By this I mean that there is no "higher purpose" or "desired end state" for either natural systems or human systems. Natural systems evolve by accidents of variation and selection. Human systems evolve by a purposeful and continual process animated by the imperative to solve novel and quite unexpected problems. The teleology of human systems is not some meta-goal or purpose. It is a rather more practical purpose of continually re-adjusting the institutional architecture so that new problems might be overcome.

We now see that an evolutionary theory of economic change – or an economic theory that is evolutionary – requires three components. First, if we are to understand human systems in evolutionary terms we must find some source of animation in virtue of which the system's substantive organizing principles – its institutional structure – come to be seen as ill-suited to the nascent perception of likely circumstances in the future. We may consider this first condition as the gradual accumulation of plausible reasons to question the *status quo* institutional setup. Perhaps rural unemployment is high and seems resistant to the standard policy prescriptions to bring it down. Perhaps the health-care system is inadequate to an aging population. Perhaps contamination in the food system reveals defects in protocols for food safety. In essence, current organizing principles are found to be plausibly defective. This is analogous to the lack of fitness of the majority of organisms in biological systems.

Second, an evolutionary economics requires that there must be a source of adjustment or revision in the *status quo* institutional setup. Think of this as the specific reasons to alter the *status quo* institutional setup in particular ways. This aspect of institutional adjustment can be understood as analogous to the process of selection in biological systems.

It is here that we encounter the process whereby human communities become involved in the serious matter of reconstituting the institutional setup that is now acknowledged to be in need of revision. We may think of this as a diagnostic activity in which focused collective effort is mobilized to seek an understanding as to why, exactly, the current institutional setup is no longer adequate. This step is necessary if we are to identify what might be done to rectify the situation in the interest of correcting the perceived problems. Notice that adjustment in the institutional setup of an economy requires three things: (1) an explanation as to the reasons for the new perception of inadequacy; (2) the mobilization of one or more policy prescriptions that seem to offer improved outcomes in the future; and (3) plausible predictions that if one or another of the policy prescriptions is adopted the situation can reasonably be expected to improve in specific ways.

Finally there must be a stopping rule in the process of institutional adjustment. This stopping rule represents the result of the collective working out of reasons to adopt a particular new institutional arrangement over one or more plausible alternatives (including the *status quo ante* institutional setup). Here, participants in the process of institutional adjustment reach an agreement that some new particular variation on the *status quo ante* institutional setup seems like the best thing to do at this time. The agreement is an implicit ratification of: (1) the need to change; (2) the specifics of the "ideal" change to be made; and (3) the need to let the change get started so that the results can be observed and evaluated. The stopping rule in an evolutionary system must provide sufficient reasons to act in particular ways, and then to allow the new institutional setup to give rise to new patterns of interaction – and new outcomes. Have we really corrected the problem of rural unemployment? Have we got the health-care system on a new and improved trajectory? Have we adequately fixed the prior flaws in the food safety system?

The analogue here is to the replication function in biological systems. If, upon observation and assessment, it is judged that indeed the specific institutional change represents a clear and desired improvement then that specific institutional arrangement will be transmitted to future generations. After all, the institutional arrangements that now define the economy are the transmitted architecture from the volitional actions of yesterday's authoritative agents – courts, legislatures, city councils, and various administrative agencies. Obviously there is no assurance that other conditions will remain the same into the future and so it would be a mistake to presume that the specific problem is fixed forever. The problem is only "fixed" for as long as all of the other conditions defining this particular realm of the economy remain reasonably similar over time. When the *ceteris paribus* conditions no longer hold, the "ideal" institutional adaptation from the past may well need – once again – to be modified.

To summarize, we see here three aspects of evolutionary change in human systems: (1) animation; (2) adjustment; and (3) adaptation. We are galvanized to act on the emerging perception of inadequacies in the existing institutional setup, we undertake diagnosis and on the basis of this assessment we change that institutional setup, and we then adapt to the new institutional setup so that it carries over into the following periods such that its performance – its capacity to bring about improved outcomes – can be revealed to us. If all seems well we will leave the new institutional setup in place until some future time when its inadequacies might become manifest. If, after adjustment, the economy still reveals certain defects, we will revisit the problem of institutional design. We reorganize how it is we organize ourselves for our provisioning. And we undertake this reorganization as often as necessary in order to keep the system plausibly coherent and conducive to acceptable outcomes. The economy becomes.

With this introduction, I can now turn to an elaboration of the three aspects of an evolutionary human system – animation, adjustment, and adaptation.

3 ANIMATION IN HUMAN SYSTEMS

> …the action of thought is excited by the irritation of doubt, and ceases when belief is attained; so that the production of belief is the sole function of thought (PEIRCE, 1957, p. 36).

I suggest above that the starting point in the evolution of human system is one of animation. That is, individual members of the going concern we call the nation-state come to the realization that to continue with the *status quo ante* institutional setup seems likely to result in particular outcomes that no longer seem compelling. This realization may originate in the public at large, or it could emerge from within particular highly regarded organizations. Perhaps a national cancer-prevention association launches a campaign to alert us to the dangers of smoking – the

end result being institutional change that restricts smoking in public places. Perhaps others call attention to the serious public health implications of drinking water supplies in rural areas – the end result being institutional change concerning the handling of agricultural chemicals. Perhaps education experts call our attention to the poor performance of elementary school children on mathematics and reading – the end result being institutional change requiring a change in educational practices.

Notice the role of surprise in moving us to question the efficacy of the *status quo ante* institutional setup. We are surprised to learn about the health implications of rural water supplies. Once we learn of these surprises, doubt sets in. Why is this happening? The essential animating ideas in the evolution of human systems are surprise and doubt. Because these circumstances are unexpected we are surprised by them. It is their quite unexpected properties that give rise to doubt and surprise. Things are not supposed to be this way. Doubt and surprise challenge the "fitness" of the specific institutional architecture that stands as the plausible explanation for these surprising outcomes. Perhaps these particular institutional arrangements are no longer suited (fit) for the tasks they were originally designed to perform.

We address doubt and surprise through a diagnostic process that Aristotle and others call abduction. An abductive syllogism is of the form:

> The surprising fact, **C**, is observed:
>
> But if **A** were true, **C** would be a matter of course,
>
> Hence, there is reason to suspect **A** is true.

Notice that abduction starts with an empirical surprise (**C**) that calls our attention to particular outcomes that are noticed precisely because of their unwanted properties. If they were surprises and yet regarded as quite desirable no further thought would be devoted to them. But surprise, coupled with an assessment of the desirability of that surprising outcome, motivates diagnostic attention. And when it is time for diagnosis we wish to know what, exactly, are the reasons for this unwanted state of affairs? In the above syllogism, those reasons stand as the assumptions (**A**) of our diagnostic undertaking. They are assumptions – think of them as hypotheses – because, if they are found to be true, then they offer a quite plausible explanation for the observed outcomes. After all, if the assumptions are indeed found to be implicated then the outcome **C** would not be a surprise but would be quite expected (BROMLEY, 2006).

So the purpose of investigating – diagnosing – the "fitness" of prevailing institutional arrangements is to see if we can come to an understanding as to the reasons for the unpleasant surprise. We want to explain those unwanted outcomes so that we might then be able to rectify them. The essential purpose of abduction is the production of belief about specific events that have been recognized as both surprising and unwelcome.

When we can identify reasons for actions or outcomes we have acquired a plausible basis for making predictions about, and for advancing explanations of, those actions or outcomes. When individuals or collections of individuals face the need to choose (to act), abduction is the process we deploy to get a grip on the reason for the new surprise – that surprise (and its reasons) constituting the necessary precursor to choice and action. Diagnostic thought is deployed for the sole purpose of fixing belief. And a belief is that – and only that – upon which we are prepared to act.

4 ADJUSTMENT IN HUMAN SYSTEMS

> …an evolutionary economics must be a theory of a process of cultural growth as determined by the economic interest, a theory of a cumulative sequence of economic institutions stated in terms of the process itself (VEBLEN, 1898 (1990), p. 77).

I have mentioned the process of selection in biological systems, and I suggested that the analogue in human systems was a process of adjustment. But how do individuals go about the process of adjustment – alteration – in those institutional arrangements that define our collective existence? Addressing that process of collective choice requires that we first understand the process of individual choice. And this will require a rather profound change in how economists model human choice and action.

We need to launch that necessary re-formulation of individual choice by questioning the economist's standard concept of the individual. A recent work offers promise in motivating that reconsideration (DAVIS, 2003). For now I wish to emphasize the concept of situatedness of the individual in what Max Weber calls our "webs of significance" (GEERTZ, 1973), and what Jurgen Habermas calls our "lifeworld" (BROMLEY, 2006). The central idea here is that the individual is both situated in – and largely constituted by – the settings and circumstances that make up the idiosyncratic personal history of each of us. Notice that this idea of the individual stands in stark contrast to the standard line in economics that all of us – everywhere – are uniform utilitarian calculators. It is claimed that with our preferences quite intact and unchanging, we rationally calculate before we act.

The theory of volitional pragmatism spelled out in Sufficient Reason (2006) insists that this approach to individual action is both circular and incoherent. We must understand the human mind as indistinguishable from the "body" that for much recent history (at least since Locke) was regarded as nothing but a passive receptor whose main purpose is to receive sensory signals (sight, smell, sound, taste, touch) from the world around us and then dutifully dump those signals – think of it as raw data – unaltered into the brain for storage and possible retrieval if needed in the future. Richard Rorty has done comprehensive damage to the quite silly idea that the human mind is simply a "mirror of nature" (RORTY, 1979). Abandonment of the metaphor of the mirror has the salutary effect of allowing us to understand that the mind and the body work in concert. That is, our individual comprehension of the settings and circumstances within which we are situated is correctly understood as individually constituted impressions of the world around us. And since we come to the task of apprehending our surroundings as previously constituted individuals with different propensities for seeing, smelling, hearing, tasting, and touching, we cannot possibly avoid constructing quite different reports concerning what is "out there." That is, different individuals necessarily formulate and hold different impressions about their lifeworld – we see it differently, we smell different things (one can only smell deviations from the "normal" smells in our lives), we hear different sounds, we taste things differently, and we receive different sensations from the objects we touch.

Pragmatists insist that there is no single true and reliable report to be sent back by earnest observers who venture out into some singular reality – for the simple reason that there is no singular reality. Each of us apprehends different aspects of the particular settings and circumstances within which we are situated. These comprehended aspects comprise our individuallized impressions of those settings and circumstances. These impressions constitute the raw material of our understanding of our situatedness, but they are of little value until they have been transformed into coherent stories that we can express to ourselves. When we re-describe these impressions to ourselves (and to others) these accounts come to constitute our expressions concerning the world around us. This idea is congenial with Antonio Damasio's

"autobiographical self" (DAMASIO, 1999). I regard these expressions as constituting the mental stage on which we live our individual lives.

As we go about the task of constructing our individualized understandings of our lifeworld, we are also continually assessing our need to make choices about future action. If things are going well, habituated action is quite adequate. However, when we are confronted with surprise and doubt the habituated mind becomes unsettled – irritated – and we seek an understanding of this novel situation. Only when we "understand" it will we know how to respond to it. That is, we abductively construct plausible inferences about the reasons for the new surprise, about the need to act, and about the most plausible actions to take in the light of the abductive belief just formulated.

It is here that I draw on G.L.S. Shackle's concept of created imaginings (SHACKLE, 1961). Above I insisted that expressions are accounts we tell ourselves (and others) about our present situatedness. On the other hand, created imaginings are accounts we tell ourselves about possible future outcomes – and our possible future situatedness among those outcomes. The essential function of expressions is to constitute (to construct) the mental stage onto which we might then project our constructed imaginings of future outcomes. In volitional pragmatism it is here that we formulate the reasons that will come to provide the grounds for choosing among the array of plausible created imaginings. Individual choice and action is a struggle between expressions and imaginings. Volitional pragmatism suggests that we act when we find a feasible created imagining that satisfies expectations about our situated outcomes in the future. And we also act when we reject all created imaginings (perhaps because they seem infeasible) and stick with our current action trajectory. To do nothing is to do something.

With this reformulated theory of individual action, we can now consider how groups of individuals charged with the task of promulgating institutional change – judges, legislators, members of city councils – come to decide what ought to be done. The pressing challenge here is to deal with the inevitable multitude of contending expressions. After all, each of us formulates and holds individualized expressions of the world around us – we are different autobiographical selves. We constitute our expressions by collecting, sorting, and re-describing to ourselves the effects of the subjects of our apprehended senses. As Peirce insisted, the meaning of an object to us is nothing but the sum of its perceived effects (PEIRCE, 1934). The obvious difficulty in joint action is that everyone else is doing the same thing. Each of us will apprehend a slightly different situatedness and thus each of us will have quite distinct expressions about the world "as it is" and about our place in that world. In the context of joint action this means that there is not a single stage (expression) upon which our disparate created imaginings are to be projected. Instead, there are as many "stages" as there are participants in the community whose task it is to ascertain but a single course of action for the future. And here, recall that the pertinent "community" could be a legislative committee, a board of directors, a group of judges, a jury, a family, or a village council. Collective action forces all participants to agree on the many aspects (effects) of expressions and imaginings.

The purpose of institutional change is precisely that a legislature or a court is called upon to advance new institutional arrangements intended to solve a particular problem. This means that legislatures or courts must reconcile a multitude of contending imaginings about the future held by their individual members. Notice that the issue here is not one of discovering, *a priori,* the "right" created imagining. Indeed, the very notion of prescriptive certitude about the "right" created imagining is misplaced. Rather, the task in an evolutionary model of economic change is to focus on the various reasons for the disparate imaginings. Progress is to be found in reasoned debate. Pragmatists put the matter as the asking for and giving of

reasons (BRANDOM, 1994, 2000). Only in pragmatism are individuals forced to do the hard analytical work of figuring out what seems better, at the moment, to do.

It is the purpose of collective action – and it is the business of the political entities in nation-states – to confront problematic situations and to formulate remedies for these emerging problematic settings and circumstances. Whether city councils, county boards, provincial committees, national parliaments, or supra-national bodies such as the European Parliament, the task of institutional innovation is an ongoing exercise in searching for plausible and acceptable solutions to new unwanted circumstances. Institutional change is simply the working out of new legal parameters that will redefine possible realms of individual action.

Institutional change entails the restructuring – the redefinition – of plausible futures for members of a nation-state. Parliaments and courts, through their actions, realign the institutional architecture of a nation state. Citizens demand new institutional arrangements in an act of prospective volition – the human will in action, looking to the future, and forming plausible images of how that future might unfold. Parliaments and courts comprise the locus where this process occurs. Public policy is nothing but thinking about, weighing, and ultimately choosing among alternative institutional setups that will give rise to alternative imagined and plausible futures. Institutional change redefines realms of individual action.

When the process of sifting and winnowing through the various created imaginings reaches the point that several of them have come to dominate the others, the third essential component of an evolutionary economics comes in to play. This final stage is the actual process whereby the institutional arrangements (the "working rules") of the economy are modified for the explicit purpose of implementing one of these dominating created imaginings. We may properly consider this emergent and now reigning imagining as the reason for the new institutional arrangements. That is, the emergent created imagining is the outcome in the future for the sake of which the new institutional arrangements must be implemented now. This dominant imagining comprises the sufficient reason for the new institutions. It explains the institutional change.

The process is repeated ad infinitum in a democratic market economy. Public policy is collective action in restraint, liberation, and expansion of individual action. And, the essence of public policy is that of redefining economic settings and circumstances. Public policy necessarily advances the economic and social agenda of some individuals, and it impedes the economic and social agenda of others. Individuals will struggle to have their interests represented in that process, but there can be no doubt that public policy is precisely concerned with such reallocations of relative advantage in the economy.

5 ADAPTATION IN HUMAN SYSTEMS

> …one may say that truth is a matter of collective judgment and that it is stabilized by the collective actions which use it as a standard for judging other claims (SHAPIN, 1994, p. 6).

As above, collective choice is a process of reconciling contending expressions and imaginings, and this is an essential activity leading to the formulation of what seems best, in the eyes of the individual (or of the group), to do. Individuals and groups work out what seems best by working out what seems possible as they work their way toward what they will come to realize seems best. The process entails not only working out the best means but also the best ends.

The issue now concerns whether or not "correct" and "rational" decisions can be said to emerge. In other words, the problem now becomes one of judging the decisions reached. Pragmatists insist that the standard economic account of "rational" choice has cause and effect confused. Volitional pragmatism suggests that recognition of the correct decision occurs after a consensus

has been reached regarding what seems best to do. Notice that the cause of the correct decision is not some external truth rule (a "correct" decision protocol) but rather the arduous yet democratic working out of – the diligent searching for – what seems the better thing to do in the current situation. Once that "better thing" has been worked out, the emergent choice becomes the correct choice by virtue of having been worked out. After all, would it not be surprising to discover that an individual (or a group) decided to do something that had been acknowledged (either individually or collectively) as clearly not the best thing to do at the time? Peirce insisted that:

> The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth, and the object represented in this opinion is the real. That is the way that I would explain reality (PEIRCE, 1934, p. 405).

The arrival at a consensus about what is better to do is always predicated upon a clear but evolving notion of the purposes of the future – an outcome in the future for the sake of which action must be taken today. In philosophy this is called final cause. Purpose is central to pragmatism, and settled belief about both purpose and how to get there represent the essence of "correct" thoughts and belief about the appropriate action to be taken.

The process of adaptation to new institutional arrangements therefore encompasses a gradual process in which the larger political community comes to "identify with" the created imagining that emerged as the reason for the institutional change that occurred in the adjustment phase. Legislators will argue about their reasons for making specific adjustments – new legislation – but when the dust has settled and a new institutional architecture becomes the "law of the land," the citizenry will "settle down" as it adapts to the new setup. Those who had been accustomed to smoking where they wished must now figure out how to respond to the new dispensation. School administrators will realize that they must figure out new procedures for their schools. Factory owners and their workers will adapt to new rules about protective equipment.

Notice that adaptation need not imply that the problem has been fixed once and for all. Perhaps the imagined solution to a problem is not quite right because the original problem had not been correctly diagnosed. Or, if the diagnosis was correct, perhaps the institutional change introduced to fix the problem was not quite right. The matter will be revisited and a new solution will be advanced. The economy becomes.

6 IMPLICATIONS FOR AN EVOLUTIONARY ECONOMICS

I have here offered the general outlines of a theory of an evolutionary economics. Such a theory must account for three conditions that are present in natural systems. First, the theory must account for reasons why "fitness" is challenged. In natural systems this arises in the form of an exogenous perturbation that bestows sudden advantage on those members embodying specific deviations. In human systems fitness is challenged when established patterns of interaction are recognized to give rise to expected outcomes – mean values – that are no longer regarded as compelling. Second, the theory must account for the emergence of an adjustment process that leads to new expected outcomes. In natural systems we refer to this as selection for new specifications of fitness. In human systems the institutional structure is purposefully modified such that desired new outcomes are the predicted result of the new institutional arrangements that have been adopted. The new institutional architecture constitutes the expected reasons for the expected desired outcomes. The mean outcome in human systems corresponds to the new mean of the distribution of the genetic architecture of the members of a natural community. Finally, the theory must account for adaptation in individual behaviors as the new institutional arrangements are allowed to "run their course" – get a chance to perform – so that the predicted

expected values of the hoped-for (desired) outcomes can be compared to what actually materializes in the fullness of time. In natural systems this is the observed response of the particular community to its initial perturbation, and the members of that community will be replicated until a new shock arises to challenge particular fitness. In human systems the new institutional regime is allowed to persist until members of the pertinent community come to regard that regime as no longer "fit."

Notice that I have referred to new institutional arrangements as the reason for new outcomes. Veblen regarded cumulative causation as the cumulative cultural momentum from the past. John R. Commons referred to the relation between new "working rules" and specific economic outcomes as instances of institutional causation (RAMSTAD, 1990, p. 77). Both of these approaches to an evolutionary economics recognize that rules of the economy – the economic institutions – are the reasons for action. That is, institutions (rules) are the output – the "operational blueprint" – of authoritative agents of the political community who have previously possessed the collectively sanctioned capacity to formulate and implement specific rules with a particular purpose in mind. This purpose – this volition of the authoritative agents – is a cause of the behaviors its hoped-for attainment elicits from the citizens of the going concern (RAMSTAD, 1990).

Notice that the fundamental economic problem is not that of resource allocation emerging out of Adam Smith's alleged harmony of interests. Rather, the primary economic problem is how to create – and then constantly to reconstitute – order in the face of new surprises in the going concern. It is clear that out of material scarcity comes conflict. But it is also clear that out of material scarcity comes mutual dependence. And so out of conflict and mutual dependence emerges the need for order. A nation's institutional structure provides that order, and changes in that institutional structure move the economy along some volitionally constructed evolutionary pathway. This institutional adjustment, this purposeful adaptation, is what Commons meant by artificial selection. It is artificial precisely because there is no "natural" trajectory for human systems. All trajectories are the volitional result of conscious choices by authoritative agents.

The conception of a "workable" solution to a problem facing the individual (or the legislature) is quite inseparable from the customary practices to which the individual mind has become accustomed. In practical terms this means that the purposes and expectations toward which problem-solving thought is directed are simply instances of what Commons called "institutional causation." It is extremely difficult for individuals to become detached from their current settings and circumstances. From this it follows that it is likewise difficult to imagine solutions to problems associated with those circumstances that are not already bound up in – prefigured by – the very circumstances giving rise to the problem now in need of correction. Truly imaginative thinkers – innovative conceptualizers – are in short supply.

Another implication flows from this – one that is more profound for economists. Specifically, because choice and action are shaped by the working rules of custom and law, and because market processes are but a reflection of volitionally created working rules, it is logically impossible for an individual – or a group of individuals – to oppose new rules concerning individual behavior simply on the grounds that these new rules are coercive in their imposition on the exercise of some alleged "free will." From an economic point of view, it necessarily follows that it is therefore illogical to regard new rules (new institutions) as somehow subversive of economic (allocative) efficiency. The only pertinent question for the economist becomes one of whose will – whose interests and volition – is to govern the creation and modification of new rules, and for what purposes?

An evolutionary economics is possible. More importantly, an evolutionary economics is necessary if we are to understand the complex processes of economic change. The necessary first step in an evolutionary economics will be the reconstitution of the theory of individual choice and action. Volitional pragmatism offers promise in this regard.

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