Critical Institutional Dynamics:
A Methodology for Modeling the Interaction of Social Institutions
- including the Economy

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Abstract

This paper begins by examining the concept of the embedded economy most associated with Karl Polanyi as "an instituted process of interaction between man and his environment, which results in a continuous supply of want-satisfying material means". While standard theory purports that economics is the study the use of scarce resources to satisfy unlimited wants, thereby relating production and consumption, the definition of economics as "the science of social provisioning", which has widespread acceptance among heterodox economists, focuses our attention on production and distribution, with consumption becoming a by-product of the interaction of productive processes with distributive processes (distribution of product and income).

It then discusses how interactions between the "instituted process" (institution) of economy, and other institutions, particularly the institution of polity, might be modeled by employing the Methodology of Critical Institutionalism (CI) which is the author's synthesis of Margaret Archer's Morphogenesis and Roy Bhaskar's Critical Realism, with Original Institutional Economics (OIE) in the tradition of Thorstein Veblen, John Commons, and J. Fagg Foster. It is proposed that a decomposition of the concept of "social provisioning" into its institutional components aids in an understanding of the nature of the interaction of productive and distributive processes in a manner consistent with various heterodox approaches and with the Critical Institutional Dynamics (CID - Critical Institutionalism + System Dynamics) approach to model building.

Model building involves the art of abstraction, i.e. deciding which "facts" about the object of study are to be included and by corollary, which facts are to be excluded. The facts pertinent to the CID approach involve the inputs to, nature of, and outcomes from transactions between social actors given the state of their Structural, Cultural and Agential (SCA) set-ups. Such models intend to answer some question or test some hypothesis about the nature of the process producing outcomes from inputs.

From the CID perspective the question or hypothesis may then be stated in the language of Commons or Bhaskar as postulating the presence (complementary factors) or absence (limiting factors) of particular SCA set-ups having powers to transform the inputs into the outputs.

The Economy as an embedded process

The Economy as an instituted "social provisioning" process

"human behaviour as a relationship between ends and scarce means which have alternative uses" (Robbins, 1932, p. 16)

> "the structure and functioning of the evolving field of human relations which is concerned with the provision of material goods and services for the satisfaction of human wants … it is the study of the changing patterns of cultural relations which deals with the creation and disposal of scarce material goods and services by individuals and groups in the light of their private and public aims" (Gruchy, 1947, p. 550)

Critical Realist Ontology

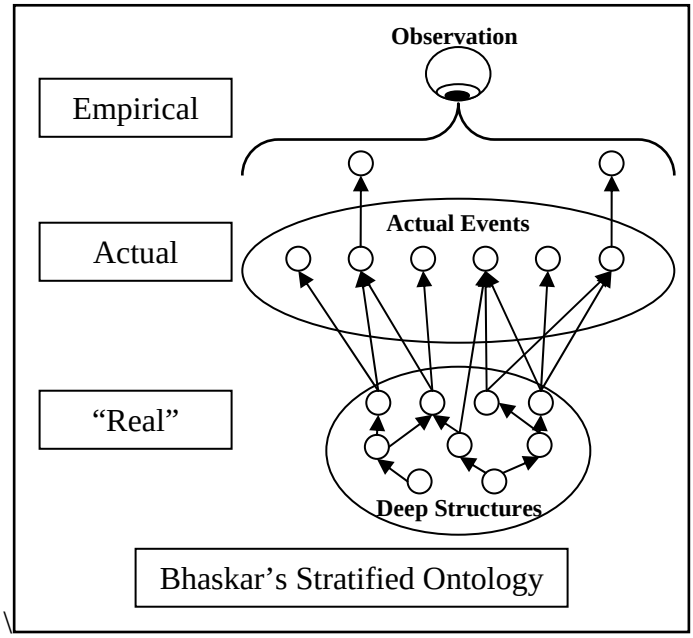
Realist ontological meta-theorizing develops from what Bhaskar characterizes as a "switch *within ontology* from events, states of affairs and the like to the structures and mechanisms which generated them" (Bhaskar, 1989, p. 181, italics in original). Realism (Depth Realism) posits that reality is stratified, and composed of three levels.

1. A lower stratum (The Real), consisting of "relatively enduring" deep structures (dStructures) and mechanisms, capable of generating actual events. These actual events are generated not by a one-to-one determination of an actual event by a single dStructure, but by an over determination of the "transfactual tendencies of relatively enduring structures"[1] (Bhaskar, 1989, p. 184), having emergent powers and liabilities. And, in the social system, in an interplay with the powers of agents.

2. A middle stratum (The Actual) of actual events, those events that occupy space and time. The number of possible events is greater than the number of dStructures. Bhaskar claims that Actualism declares that this is the only real level.
3. And, an upper stratum (The Empirical) where the effects of the actual are observed. The number of observable/observed actual events is less than the number of actual events. Bhaskar argues that Empiricism declares that this is the only real level.

Each lower stratum contains the mechanisms out of which the upper strata emerge. The concept of **emergence** recognizes the inherent properties, powers and liabilities of each stratum as distinctive, a distinctiveness that makes each irreducible to the other[2]. Emergent properties are relational, resulting from the interaction of dStructure 'components' with each other as opposed to being intrinsic to a dStructure. At the level of the real these relations are "one-way relations of inclusion" (Collier, 1994, p. 107), basic mechanisms generate less basic ones. At the level of the actual the relations are not one-way since many real generative mechanisms combine to product actual events.

In addition to reality being stratified in the way described, the level of real is also stratified[3], while the actual and empirical levels are not. dStructures at the level of real generate other dStructures (which is the reason for calling them deep), via the process of emergence, from their causal powers and relational properties. These emerged dStructures are themselves autonomous and are capable, in conjunction with other dStructures, including those from which it emerged, of generating other dStructures and actual events (Collier, 1994, p. 48). See Figure 1 below for a graphical representation of the preceding narrative.



Once these dStructures emerge they have their own autonomy and causal powers, based on their own internal logic of natural necessity, and are relatively enduring. Natural necessity is to be understood as referring to dStructural relations, which are such that if they did not exist, the dStructures would not exist. Within capitalism the relation of worker to capitalist is one of natural necessity, and one political relation that may be theorized to emerge from this, is the private property relation of owner and owned. Both are necessary together in order to sustain the accumulation of profit within the capitalist system, and are partially explanatory of the actual event of an unequal distribution of income. (Collier, 1994, p. 48)

Critical Realist Methodology

Bhaskar describes the process of science as a dialectical one he calls "The Logic of Scientific Discovery," "in which [1] a regularity is identified, [2] a plausible explanation for it is invented, and [3] the reality of the entities and process postulated in the explanation is then checked." (1975, p. 14). Empiricism, recognizing only the empirical as real, stops at [1]. If the real is limited to the empirical, the only criteria for confirmation or falsification of theory possible at this level would be the degree to which an empirical theory predicts future events; there is nothing else to study.

The transcendental idealist tradition, as pointed out by Bhaskar (1975), accepts step [2], developing models for the logical combination of empirical data. However, it accepts theory as only an imaginary (idealistic) tool or instrument useful in further investigations. In order to accept theory as valid in an open system, Bhaskar states that it is necessary to perform empirical testing in order to check the existence of the postulated entities and processes. Because realism accepts the empirical as real, it does not reject empirical verification, but goes further and insists on [3], as Popperian instrumentalists do not, that theoretical terms are subjected to a "reality check"; i.e. do they exist and what are their causal powers?

Bhaskar states that realist methodology must recognize differences between the natural world and the social world and presents what he calls the Transformational Model of Social Activity (TMSA) as a methodology for the study of society. Having the previously described concepts of emergence, stratification and natural necessity, its main distinguishing concepts, for social sciences, are those of the relationship of Structure and Agency.

The objects of study in the social world, unlike the objects of study in the natural world, are activity dependent, have self and situational awareness, and are only relatively enduring. As "society is both the ever present *condition* (material cause) and the continually reproduced *outcome* [final cause] of human agency" (Collier, 1994, p. 145, italics in original), the objects of study for the social science are:

1. the material and ideational Structures that predate agents,
2. the intentionality [purposiveness] of agents who, as efficient causes, transform material causes into final causes, and
3. the material and ideational Structures that postdate the interactions of agents with material causes and each other.

Morphogenesis/Morphostasis

Margaret Archer's Morphogenetic approach presents the most developed sociological methodology within the philosophical paradigm of Critical Realism. Stating that "the problem of the

relationship between individual and society was **the** central sociological problem from the beginning." (1995, p. 1, emphasis added), Archer's realist theorization of the "constitution of Society" rests on the idea that for proper explication of the sociological problem, the "parts" (Structure) can and must be analytically separated from the "people" (Agency), thus necessitating theorizing the relationship between the individual and society. This must be done in a way that explains the existence of each without eliding one into the other resulting in the upwards, downwards or central conflation seen in the theories of Weber, Durkheim and Giddens respectively, or their variations.

What is meant by Agency is the commonality of our everyday experience that "[w]e are simultaneously free and constrained and we also have some awareness of it." (Archer, 1995, p. 1). We are aware that it is part of our human condition that we possess the power to interact with and to attempt to re-make our social environments to suit our needs. By Structure is meant the constraints, of a non-personal, material and ideational nature, which prevent us from accomplishing all that we desire; and the enablements which allow us to accomplish what we do. To avoid terminological confusion we hereafter refer to Archer's Social Structure as sStructure to distinguish it from Deep Structure or dStructure. Both sStructure and Agency are components at the level of dStructure.

Archer's solution to the theorizing of the sociological problem, the Morphogenetic / Morphostatic (M/M) approach places itself as a Methodology, standing between ontology and theory, aimed at allowing an analysis of the role of sStructure and Agency in reproducing and transforming society. Morphogenesis as a process recognizes the open, peopled, re-shapeable character of social structure. In so doing it recognizes that people, through the power that emerges from Agency, and sStructure, through their emergent properties, interact to change the structure of society. The acting of agents is with intention, occurring in ways that cannot be predicted by others, and with consequences unintended even to those acting. Morphostasis recognizes processes that tend to preserve and maintain the current sStructure. In this way the emergent properties of society impersonally resist and constrain the actions of agents and tend to reproduce themselves. The resistance of society to reshaping, is impersonal, for although it may occur through the actions of agents intending to maintain the status

quo, those agents are themselves subject to constraints and unintended consequences. Society constrains and enables through the conditioning of agents and by the relationship of agents to varied distributions of material and ideational resources (sStructure) into which they are born; which also creates varied and conflicting interests.

rStructural, Cultural and People's Emergent Properties

Stated perhaps too simply, the M/M approach seeks to serve as a framework within which:

1. the emergent properties of resource Structure (hereafter referred to as rStructure to distinguish it from sStructure and dStructure), consisting of the "distributions, roles, institutional structures [and] social systems" (Archer, 1995, p. 176) of past M/M cycles, and the emergent properties of Culture, consisting of, in Archer's conception, ideas and their logical relations ,can be detected due to their properties of relative endurance, natural necessity and causal powers; and
2. the emergent properties of people can be analyzed by their interplay with the emergent properties of rStructure and Culture.
3. It is the interplay or social interaction of the emergent properties of rStructure and Culture, with the emergent properties of Agency that reproduces or transforms society over time in a never-ending Morphogenetic/Morphostatic cycle. It is understood that Agency has its own human introspective and creative powers, and can resist the influence of sStructure. We therefore reject the idea of a deterministic relation between sStructure and Agency, instead positing a conditioning relation.

The Concept of Institution in Original Institutional Economic Thought

Before proceeding, it is necessary to reconcile varying definitions of 'institution' within Original Institutional Economics. We will not discuss the numerous definitions of 'institution' extant within sociology, or that of the New Institutional Economics, or in any real detail the dialog on institutions going on between Critical Realists and Institutionalists. Our definition is a fusion of the definition of institution within the work of Thorstein Veblen, John Commons, and J. Fagg Foster.

Veblen gave no single definition of institution, but a general understanding of what Veblen intended is that an institution is the "settled habits of thought common to the generality of men" by which "men order their lives" (Veblen, 1909, p. 626). For Commons an institution is "collective action in control, liberation and expansion of individual action" (1934, p. 648). A third definition comes from J. Fagg Foster as "socially prescribed patterns of correlated human behavior" (1981). These definitions appear to be in conflict, Veblen defining an institution as "settled habits of thought", Commons defining an institution as a relation between categories of action, and Foster defining institution as patterns of behavior. We argue that Veblen, Commons, and Foster were defining an institution from the viewpoint that each was most interested in researching, and that the definitions are necessary and complementary. We begin with a categorization of Commons' definition into Bhaskar's schema.

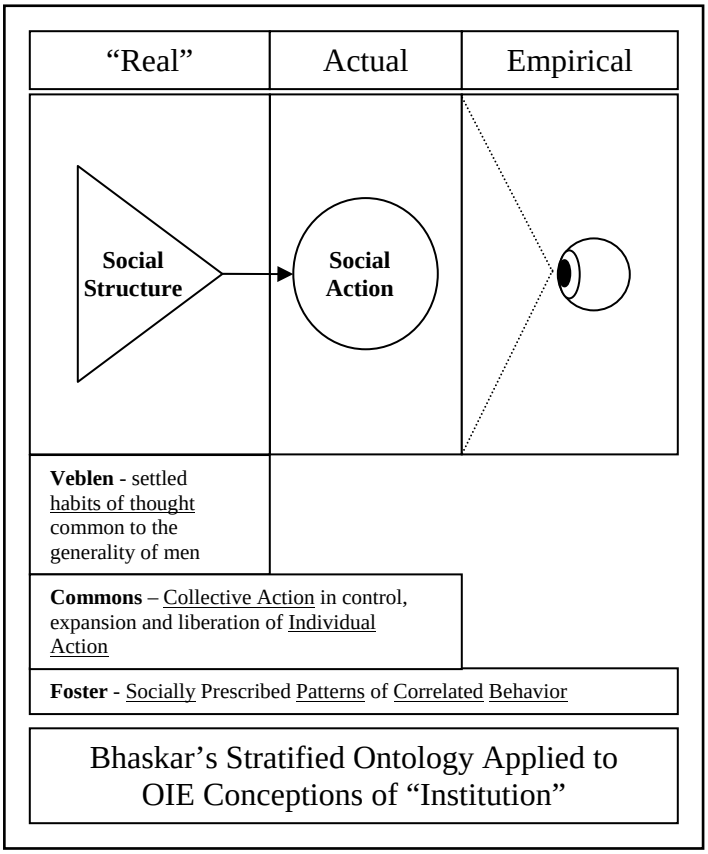
Commons' definition of institution as "collective action in control, liberation and expansion of individual action" is the easiest to place; in particular for 'individual action' we are talking about purposive behavior at the level of The Actual. But by 'collective action' Commons does not simply mean action by a group in present time, but also the accumulated system of rights, duties, and obligations from the past (i.e. the 'dead hand of the past') at work in the present (the 'working rules'), controlling, expanding and liberating the individual actions of current **Social Actors**. And, in particular with regards to expansion and liberation, the system of collective action provides the **Social Structure** out of which emerges innovative individual action, placing collective action at the level of The Real.

Proceeding to Veblen. Hodgson argues that by habits Veblen did not mean behaviors, but instead meant propensities and predispositions to perform certain behaviors. As these are predispositions to behave in a certain way, under certain conditions, habits may not be expressed in behavior if conditions are not right. (2004, p. 169) Understanding that an action is defined as a "purposive behavior", i.e. "the process of doing something in order to achieve a purpose" (Encarta Dictionary Online); if these habits are not behaviors they cannot be actions and are not within the

stratum of The Actual or by inference The Empirical. Schematically this leaves The Real. We argue the Commons' 'collective action' as the accumulation of the working rules for current individual actions are synonymous with Veblen's "settled habits of thought common to the generality of men" by which "men order their lives"; that settled habits means relatively enduring patterns from the past to act in the present in certain ways. As habits of thoughts they exist with the psychological makeup of people; as common habits of thought they exist as cultural patterns into which people are socialized; they form part of the cultural system. We therefore argue that Veblen's definition of institution is at the level of The Real and is equivalent (making allowances for present collective action) with Commons' collective action.

This leaves Foster. The focus on Foster's definition has been on his use of the work behavior, which places the focus on observation at the level of The Empirical. But Foster's definition is not simply about behavior, but 'patterns of behavior' and these are correlated. As Paul Bush points out, that these behaviors are correlated is an indication of purposeful rather than random behavior (1988, p. 127); they are actions. And, within OIE thought, the set of institutional/ceremonial patterns of behavior and technological/instrumental patterns of behavior of behavior are "correlated" (related to each other which is why they are called patterns); the ceremonial by tradition and the instrumental by cause and effect.

Foster's "socially prescribed patterns of correlated human behavior" is synonymous with individual behavior, socially prescribed and patterned by collective action, and correlated by a purpose, i.e. purposive behavior or action. Finally, we would argue that the use of the word behavior places an empirical cast on Foster's definition and echoes the position taken by Wesley Mitchell (1925) about the patterning effect of institutions and the usefulness of investigating correlations between these patterns in economic analysis and modeling the economy. As long as we make allowances for unobserved institutionalized actions, this places Foster's definition across the board.



Institution as Structurally Actualized Emergent Process

David Hamilton writes of Veblen; "[w]hen he [Veblen] referred to institutions, it was not to social structure but to a social process." (1986, p. 525). And this is given weight by Veblen's use of the phase - "men order their lives". This is not a static formulation, but a description of a practice. Characterized in this way consistent with our prior discussion, **Institutions are the actualization of the relations (and interrelations) of Social Structure, whereby collective action controls, expands and liberates the individual action of Social Actions.** These actualizations result in a cumulative causation of 'settled habits of thought' as tendencies for conditioned future actions (purposive behaviors). However, institutions cannot be reduced to structures or behaviors or patterns of behaviors. Institutions, as **actualizations** of Social Structure, are not simply at the level of dStructure, but represent the **process** of emergence of the Actual (in Trans-actions) from the dStructural. Institutions are multi-level processes.

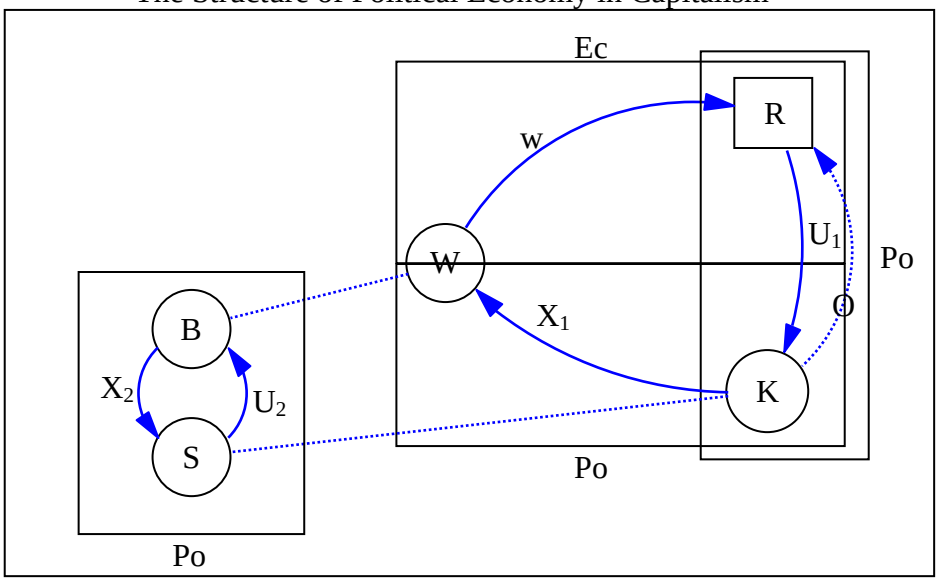
Modeling Social Transactions

In Commons's famous definition of an institution "as collective action in control, liberation and expansion of individual action" (1931, p. 648), it must be understood that Commons insists on a relational, transactional definition. Writing of economic transactions, the individual action in his definition involves "participation in bargaining, managing and rationing transactions, which are the ultimate units of economic activity. Control, liberation and expansion occurs by way of "working rules which govern more or less what the individual can, must, or may do or not do." (1931, p. 648). The "working rules" define the purpose of the institution as they define "for different institutions … what individuals can, must, or may, do or not do, enforced by collective sanctions." (1931, p. 650).

Since collective action expands as well as controls individual action, there is the resultant that collective action facilitates the emergence of causal powers from individual action making the total effect of individual actions greater than the effect of the sum of the individual actions taken in the aggregate. This is consistent with the Critical Realism position that it is the relational nature of social action that generates emergent causal powers. Commons's transactions are always relational, and not only relational as with interaction, but trans-actional, i.e. purposive for the social actors involved.

Modeling Institutional Interaction

The Structure of Political Economy in Capitalism



The "art" of Abstraction

When constructing any model and corresponding hypotheses as an explanation of a problem to be understood or explained, it is necessary to abstract from the 'World' (Sayer, 1992). Abstraction involves deciding which "facts" about the object of study are to be included and by corollary, which facts are to be excluded understanding that something must be left out of every model.

The facts pertinent to the CID approach involve the inputs to, nature of, and outcomes from transactions between social actors given the state of their Structural, Cultural and Agential (SCA) set-ups. Such models intend to answer some question or test some hypothesis about the nature of the process producing outcomes from inputs.

From the CID perspective the question or hypothesis may then be stated in the language of Commons or Bhaskar as postulating the presence (complementary factors) or absence (limiting factors) of particular SCA set-ups having powers to transform the inputs into the outputs.

We seek to abstract from the myriad of possible institutional interactions and transactions, and social structures, actors and actions, those that we believe to have the most relevance to the particular

research problem at hand. This is accomplished through the application of what Critical Realists call "transcendental analysis" or retroduction; and what Peirce called 'abduction'. According to Peirce, abduction is hypothesis development; it "consists in studying facts and devising a theory to explain them. Its only justification is that if we are ever to understand things at all, it must be in that way." (Peirce, 1934, p. 145) The identification of dStructure transcendentally requires asking questions of the form — "what needs to be present for X to be such as it is?" (Archer, 1995, p. 177), in order to identify the powers and liabilities of dStructures under conditions of Natural Necessity. This focuses our attention on what Bhaskar calls the internal and necessary relations existing in the structure causing the phenomena under investigation.

As transcendental analysis is employed to social situations, the questions to be asked are those about the causal power of dStructure (sStructure mediated through Agency), and its ability to produce the phenomena under investigation. These questions can be formulated generally according to the following 'templates' in Bhaskar's language:

1. For Agency - what must Social Actors be able to do in order to produce the phenomena?
2. For rStructure - what distribution of resources is necessary to the actions of Social Actors producing the phenomena?
3. For Culture - what "tools and skills", and ideas and facts are necessary to the actions of Social Actors producing the phenomena?

While Bhaskar's transcendental analysis is designed to identify dStructure, the uncovering of dStructure alone cannot be the end of the process of formulating a Critical Institutionalist hypothesis. Situations, including those situations determined to be problematic occur at the level of the Actual. In fact, Bhaskar's position that the causal powers of dStructure are generally hidden from people means that if they are felt as problematic, and as Dewey writes "a problem must be felt before it can be stated" (Dewey, 1981, p. 76), they can only be problematic when noticed by people, which occurs at the level of the Actual. It is therefore not dStructure that people feel as problematic, but the outcomes of actual events.

In so far as Institutional Analysis requires an analysis of institutional patterns of behavior, a necessary condition for a hypothesis consistent with Critical Institutional analysis is that it must connect dStructure to the institutional patterns of behavior they condition at the level of the Actual. An analysis of this connection can be accomplished by a modification of the form of the transcendental argument, to reflect Institutionalist insights, particularly those of Commons concerning complementary and limiting (absence of complementary) factors.

Within Commons's method of institutional analysis complementary and limiting factors are foundational concepts (Commons, 1931, 1934; 1936). Within any going concern complementary factors are those elements necessarily present in order for the transaction to be realized and that either cannot be withheld or for which substitutes can be readily found. Strategic or limiting factors are those that are necessary for the transaction to be realized but which are not available. Since complementary factors are readily available, they do not become the focus in strategic planning which should aim at removing the limiting factors preventing the going concern from fulfilling its purpose.

By modification the previous questions concerning rStructure and Culture can represent this connection, and are reformulated, in "Commons' Language" with regards to complementary factors as follows:[4]

2. For rStructure —what rStructural complementary factors are necessary to the actions of Social Actors producing the phenomena?
3. For Culture —what Cultural complementary factors are necessary to the actions of Social Actors producing the phenomena?

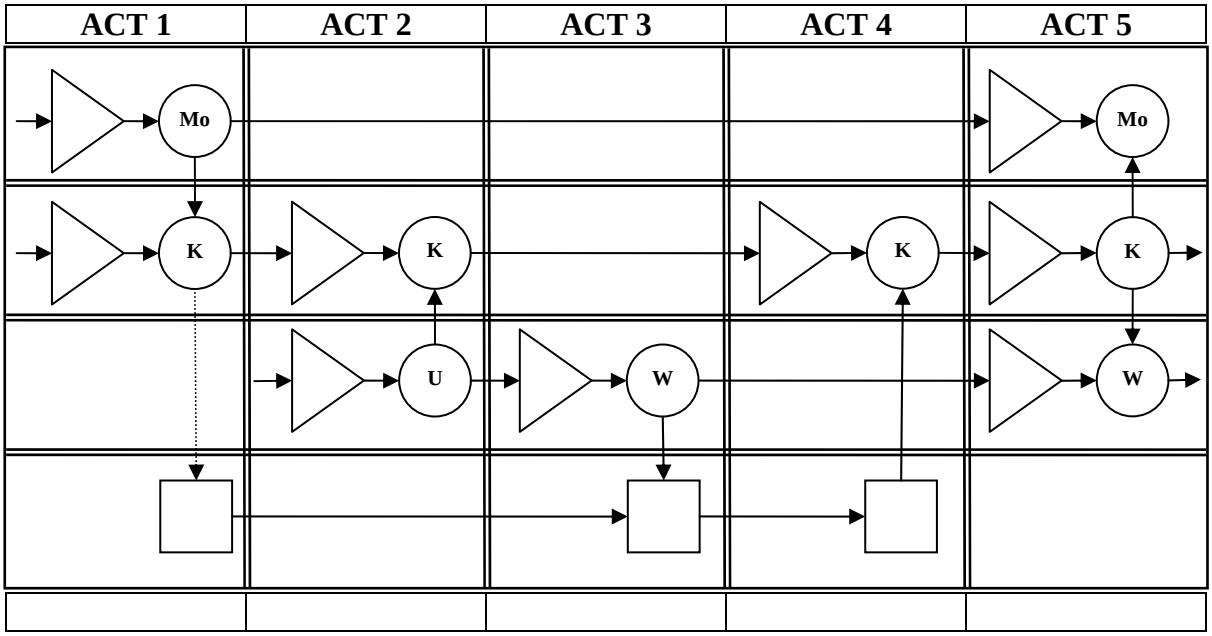
Finally, for Critical **Institutional** Analysis we must add an additional transcendental question; a question concerning the necessary complementary factors "governing" the institutional interactions and transactions, the 'working rules' required in order for Institutional Morphostasis or Morphogenesis to occur. The application of Commons's concept of 'working rules' comes from the understanding that as previously stated, 'collective action', i.e. collective control, liberation and expansion, occurs by way of "working rules" that define the purpose of the institution as they define "for different

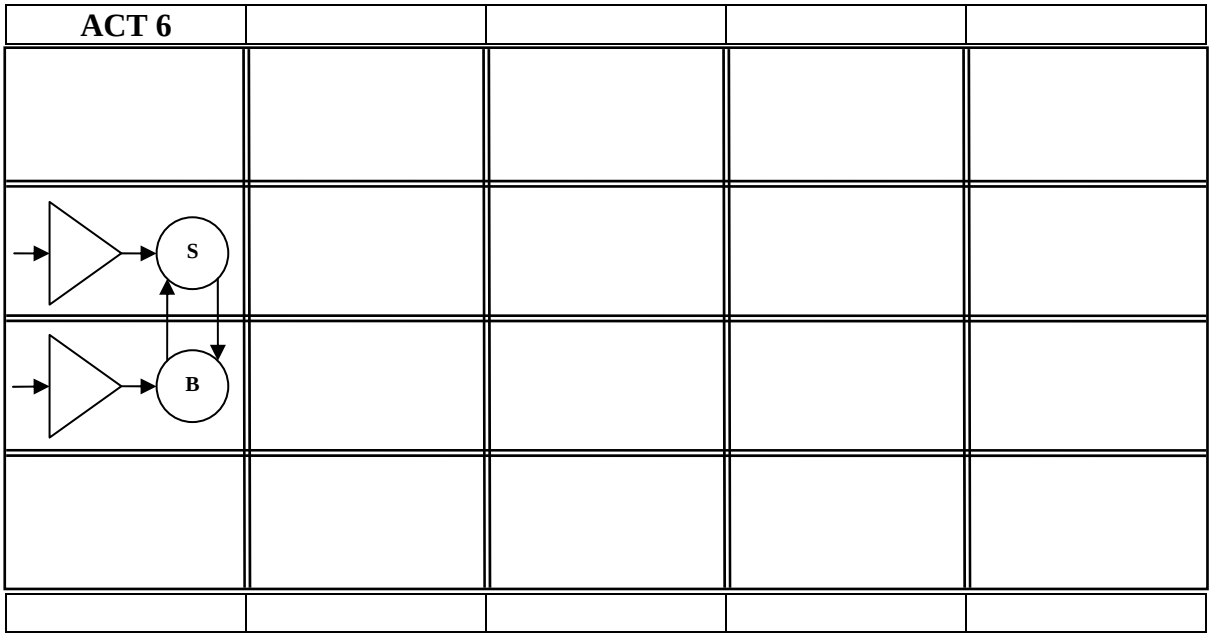
institutions . . . what individuals can, must, or may, do or not do, enforced by collective sanctions." (Commons, 1931, p. 650). And, that 'collective action' allows the emergence of causal powers from individual action making the total of individual actions greater than the sum of the individual actions taken in the aggregate. And, that the actualization of the relations (and interrelations) of dStructure (rStructure, Culture and Agency), whereby collective action controls, (resulting in 'settled habits of thought'), expands and liberates individual action, conditioning actions (purposive behaviors), which cannot be reduced to behaviors or patterns of behaviors. The question is of the form:

4. For Institutions — what institutional 'working rules' or 'settled habits of thought' are necessary in order for the behavior to produce Institutional Morphostasis or Institutional Morphogenesis?

"Storyboarding"

[NO WHERE NEAR STARTED MUCH LESS COMPLETE
NEED LOTS OF FEEDBACK FROM THE PRESENTATION]





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1 The concept of the transfactuality of laws in open systems is that "laws, or law-like statements, can only be universal if they are interpreted…as designating the activity of generative mechanisms and structures independently of any particular sequence of events or patterns of events." (Bhaskar, 1975, p. 14)

2 This is the purpose of calling 'reality' stratified and not just multi-layered — conflation is not allowed.

3 Bhaskar argues that there are infinite levels of the real, but for discussion, we take this stratum as a whole, distinguishing it from the other two.

4 The previous question concerning Agency needs no reformulation since it was already a question about behavior, as it must be since it is a question about the action (purposeful behavior) of people rather than about the conditions for that action. However, we recognize that not all behavior is effective. We are therefore interested in those purposeful behaviors that are instrumental to social action, in the Deweyan sense of achieving the desired results.