SYSTEMIC CHANGE THROUGH PRAXIS and INQUIRY

Praxiology: The International Annual of Practical Philosophy and Methodology

Volume 11

# **Arne Collen**

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#### THE LEARNED SOCIETY OF PRAXIOLOGY

### **PRAXIOLOGY:**

The International Annual of Practical Philosophy and Methodology Vol. 11

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# Volume 11

# **Arne Collen**



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### Acknowledgments

No book can be written without the support, encouragement, and critical feedback of others. This book is no different.

My exposure to the Polish praxiology tradition began in 1991 with my first visit to the Polish Academy of Sciences in Warsaw. This occasion was the invitation to present to the Academy my thinking about research methodology, which Professor Wojciech W. Gasparski suggested had much in common with praxiology. Although I believed my generalist approach to research benefited from cybernetics, pragmatics, and systemics, I was unaware of the richness awaiting me in praxiology. My visits catalyzed fruitful exchanges with Gasparski. He introduced me to the writings of Espinas, Kotarbiński and those who followed them. The importance of the praxiology tradition in Poland quickly became apparent in furthering my interests to advance research methodology for human inquiry. Therefore, my foremost appreciation is expressed to Professor Gasparski as clearly the greatest single influence responsible for this book. But also, I wish to thank the Academy and the Learned Society of Praxiology for their kindness, hospitality, and support.

Distinguishing systemic from non systemic method is an elaboration of my paper in the 1997 *Proceedings of the World Multiconference on Systemics, Cybernetics and Informatics.* Grateful acknowledgment is given to Professor Nagib Callaos for his interest and permission to draw generously upon it.

After an invited address in 1997 before the Bulgarian Academy of Sciences and the Section for Philosophical Sciences of the Union of Scientists in Sofia, Dr. Magdalena Kalaidjieva requested my address on hierarchy and control be published in *Complex Control Systems*. Grateful acknowledgments are extended to Dr. Magdalena Kalaidjieva, the Academy, and Section for their interest in the work and kind permission to present its essentials, even though this chapter has been developed substantially beyond its earlier presentation.

Writing on disciplinarity derives from my fruitful collaboration with Professor Gianfranco Minati, leading to our coauthored book, *Introduction to Systemics* (1997). It has prompted me to elaborate my work further, as well as provide a complementary version under the title, "Disciplinarity in the pursuit of knowledge" for Minati and Pessa (2002). Grateful acknowledgements are given to Professor Minati, Eagleye Books, and Kluver Academic/Plenum Publishers.

As evidenced in the majority of chapters, systemic change is a theme pervasive in my writings, presentations and workshops, and from 1989 to 1998 in my annual Human Science Research Seminars (HSRS), particularly the summers of 1993 and 1995. During the decade, several visiting professorships brought many opportunities to discuss systemic change in research methodology for human inquiry with close colleagues and their students. My gratitude is extended for the interest, exchanges, and support from Professors Kristo Ivanov (Umeå University, Sweden), Stig Holmberg (Mid-Sweden University), Massimo Negrotti (University of Urbino, Italy), and Mieczysław Bazewicz (Wrocła w University of Technology, Poland).

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Arne Collen

## Editorial

Wojciech W. Gasparski Editor-in-Chief

The twentieth century has been given many "nicknames" because of the dramatic, even tragic events that occurred in it, because of unbelievable development of science and technology during the period, and quite a few other reasons. The century deserves also one more nickname — the age of praxiology because of intensive development of human action theories whether praxiological of their nature and name or covered under different names and approaches. What was characteristic for human action theories that flourished in the recent past? First and foremost it was an attempt to identify the feature characteristic for human understanding what human action is about. To understand that humanities and social studies (or sciences, if you wish) are about entities already captured by regular humans, not scientific but just human understanding.

It was a Polish sociologist and social philosopher Florian Znaniecki, well known in the USA where he was involved in social research and university education, who identified the discriminant of social studies. He named it as the "humanistic coefficient" defined in the following way:

#### **6** Systemic Change

This feature of cultural objects of humanistic studies, their principal characteristics that as subjects of theoretical reflection they already are given as subjects of one's experience or one's conscious activities, may be named as *humanistic coefficient* of the phenomena. Myth, a piece of art, a word of a speech, a tool, a legal scheme, a social system are that what they are only as conscious human endeavors; we study them only in relation to known or hypothetically constructed complex of experiences and activities those empirically limited, historically and socially conditioned human beings or collections of conscious human beings who created them and who use them in their actions ... All the objective reality of the phenomena ... are to be missing when we remove the humanistic coefficient, when the phenomena are to be considered not as subjects of somebody's experience or complexes of one's conscious activities but as "nobody's" reality of the type postulated by (nature) science. (Znaniecki, 1988, p. 25).

Znaniecki elaborated an action theory, a humanistic one, based on a concept of *activity*, which is human and only human. It is not a behavior of any technological system (device or machine) or biological system (vascular or nervous). The activity is what we humans experience when we perform it. Such understood activity is not an entity given, given are changes in contents and meanings made by the activity performed, i. e. an *act*.

Every activity is performed on the basis of its *ideal course* which is a mental course. So, quoting after Znaniecki, each activity is a thought, and each thought is an activity, for every ideal act causes immediate real consequences. *Tools* are the factors that strengthen real consequences of activities. Among tools are those which multiply consequences quantitatively, e. g. machines, others give possibilities to receive qualitatively different consequences, e. g. aircrafts, yet other ones make it possible to move from one real system to a different system; they are human beings serving roles in social systems. The most important tool is the tongue which enables active humans to leave their areas of experience and to influence other areas. Tongue not only as a language or speech, but also as meaning is a universal tool existing thanks to cooperation of great number of individuals. But the most fundamental tool is the organism of an active human

through which he or she acts and reacts both mentally and physically, for material symbols are so important for social understanding and agreement.

Every activity as a product of thought is an ideal course and each activity causes real effects. Therefore each activity is creative, for the effect of an activity is not a follow up of former states of the world but of what is added by the ideal course to the external world. Being creative does not mean to be original, since so many activities are similar. This similarity is named a *form of an activity*, which conditioned both the content and the meaning of results of the given activity.

According to Znaniecki mutual influence of activities and conditions in which the activity is performed is carried on in such a way that an active human chooses one condition ignoring others, thus creating a *practical problem* as a task to be solved through the activity. Therefore what really exists objectively in the limits of our experience exists for us practically, influences our activity, and is (in each case) introduced to the actual practical problem by the actual activity. Repetition of activities in similar conditions leads to *habits* which play an important role in human science, especially in relation to causality of human action.

One may not claim that conditions by themselves caused activities .... But conditions together with the activity creating them form a complex of experience which is a relatively constant part of changeable and fluent humanistic world to the degree of habitual character established spontaneously by the activity within the limits of that part, an all changes within it have to be regular taken from the regularities of the system, as in any nature system. Thus if a habitual activity is forced to change by unignorable external conditions then the activity will change in the way defined by both the habit and the conditions. This is the base for causal explanation of habitual activities change — not just the activity — considering the change as a consequence of change of the conditions imposed upon the original activity. The later is a necessary coefficient of the emergence of a new activity, for it receives practical meaning in relation to the activity and its conditions. It is understandable that regularity of that causal relation depends on the

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degree of uniformization of the original activity and its conditions. In general, we have to remember that activity is a mainspring of all regular mechanism we find in the humanistic world, and because of that causal explanation within the world has to be hypothetical provided the real fact is based on the ideal factor thanks to which the fact may be considered as a manifestation of the causal law. (Znaniecki, 1988, p. 96).

Activities are not performed individually and independently of other activities but in an objective relation with many other activities with which they create *ideal systems*. Dependence between activities is not of causal character, its character is *logical*, for one activity needs another activity to be performed in a defined form. This type of systemic interdependence of activities is named by Znaniecki *functioning* of activities which means that a given activity plays a defined *function* within the system.

Znaniecki differentiates three types of activity systems: (i) an act, (ii) a normative course, and (iii) a raising of an ideal.

An *act* is any activity system which may be finished, i. e. which receives such effects that might be considered as a solution, whether satisfactory or not, of a practical problem formulated at the beginning. Finishing the course of an action is the main characteristic of an act. Those acts that have not logical termination are norms, e. g. a norm "don't steal" is unfinishable while publishing this book has its final state.

An act is performed within a systematic composition of object named a *situation* which is a complex of existing values having positive or negative meaning for performing the intent. The situation is defined not by an observer but by an active subject. The essential element of the situation is an *object of activity*, that is such an object the act create or modified giving it new content and meaning, i. e. new features which are the goal of an act.

If acts are accompanied with ideal patterns we deal with *customs*. Znaniecki's understanding of customs is close to Espinas' concept of techniques.

A normative course is a limitless system of acts performed under the requirement of a norm. Its essential activity is a normative activity. Its functioning consist of causing a given type of actions. The normative activity shapes activities equipping them with a common form. A norm demands that the acts it defines are to be perform unconditionally. It tends to eliminate obstacles preventing the activity creating general scheme of a situation.

Raising of an ideal is the most complicated activity system. An ideal is an ideal complex of activities as an object of human aspirations projected to the future. It may be a chaos of creative acts (anarchy) or a system of normative courses (systems of norms). Anarchy is not impossible locally and for shorter periods of time, otherwise it would be contradictory, so a system of norms is possible only as the ideal. Its essence is tendency to expand the ideal upon all kinds of activities: moral, religious, intellectual, political, ideological, aesthetic systems, etc. which are good examples. In the extreme cases ideal enforcement may lead to a practical dogma (e. g. class war in communism, political correctness in the US, constitutional systems of law in strong countries, tenets of science, religious fundamentalism, etc.). But:

No an ideal established, even the most perfect in its construction and the most powerful in its action, is not able to subordinate whole human activity in a given area; activities different from requirements inevitably grow up greater in number and types . . . As long as they are dispersed and rest without continuous and unified intent their influence on a dogmatic system may be ignored as passing. But since they become unified in a normative course, when a norm contradictory to the existent one emerges and start to act on the dogma, then modification of a dogma inevitable leads to the ideal change. (Znaniecki 1988, p. 127)

Activities, as forms and functions, exist ideally in the sense that being elements of a system interrelated with other activities are carried out of the course of actual subjects performing the activities in question. Activities divide, new ones emerge from older ones, sometimes — but rather seldom they union. It gives us a possibility, writes Znaniecki, to consider known activities as developing in time and creating one ideal world that emerges out of them. It is, however, impossible for a theoretician to state whether the course, unique and irreversible, which is the evolution of culture is the *progress*. It would need introducing of values for which there is no room in science. One may notice differences between contemporary and past systems, present ones are definitely more complex, more developed so as it is possible to tell about the *development* if we accept wider scale of creativity, systems complexity as positive values.

Znaniecki's theory of action is a theory situated in sociology, particularly in the fourth chapter of his Introduction to Sociology, a book published in Polish. Although the theory differs from action theories like: praxiology situated in philosophy by Tadeusz Kotarbiński and Mario Bunge, or praxiology located in social science by Louis Bourdeau or Alfred Victor Espinas, or praxiology considered as a foundation of economics by Ludwig von Mises, or — finally — other action theories like one developed by Donald Davidson situated in the crossroads of philosophy and psychology, it belongs to the same family of human action theories praxiologists were interested in what may be proved by praxiologists' interest in the Parsons' general theory of action, a theory of sociological and systemic background. This book on human science is a good bridge between the Znaniecki's approach to study human action and classical praxiology. Its author, Professor Arne Collen, tries to enlarge the scope of inquiry through his systemic methodology.

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## Introduction

#### 1. Perspectives and Confluent Streams

Our personal interests in change are endemic to daily living, while humanity is evidently undergoing globalization. Systemic change lies below the surface of transparent change. The movement of a hand, the breeze moving through swaying branches of a tree, and the wetness of the street with a misty rain are easily recognized transparent changes. In comparison, the complexity of conducting a day of living is intangible. Our contributions to globalizing trends in production, consumption, and pollution occur invisibly in the performance of daily activities. Local and global changes provide us with contrasting sources of complexity. The contrasts and the gradations connecting them draw us to studying systemics through praxis and inquiry.

Systemic change implies certain intricacies, a quality beyond mere change. Delving into the intricacies adds intrigue and puzzlement to the study and understanding of change in human affairs. It is the nature of systemic change for human beings that is the central preoccupation of this book.

Two perspectives are woven through out the text: praxis and inquiry. Their importance to systemic change are explicated at various levels of application — the personal, small group, and human organization — all taken to be kinds of human activity systems (Checkland, 1981). As later chapters will reveal, this activity-as-action emphasis is an essential ingredient that brings praxiology to praxis and inquiry (Gasparski, 1993).

This introductory chapter is an orientation to the concepts *praxis* and *inquiry*, as they shall influence the development of all subsequent chapters.

By praxis is meant the practices of persons who go about their daily work and private lives. Their practices bring a degree of concreteness to what may seem abstract concepts, like boundary, perspectivism, and isomorphy associated with general systems theory (Bertalanffy, 1968). Observing human beings in action over a range of activities, from those one might classify as routine to those collectively executed in the human organization, is the praxis that makes this theoretical concept real. As we shall see, it is the executing, witnessing, and articulating praxis (actions, activities, practices) that help us to make human systems visible. In fact, praxis constitutes the life blood of human systems. Knowing this, we can better position ourselves to detect and observe systemic change.

There is another side of praxis captured in the term praxiology. Though praxiology may have a variety of meanings (Collen, 1999; Gasparski, 1993; Kotarbiński, 1965; Ulrich, 1998), the one emphasized throughout this book is simply the study of praxis. Specifically, the practices of persons and small groups that define and describe the processes of human activity. Such an activity can be completing a task by oneself. And it can be collective forms of action, such as common interest groups, committees, task forces, and collaborative research teams. Praxiology brings focus to understand practices. Praxiology reveals the effectiveness, efficiency, efficacy, and ethicality of human action. For the researcher, the intention is to describe those practices that bear critically upon systemic change.

The text oscillates between praxis manifesting two thematic cords. One cord is the praxiology of praxis. It draws on the

Kotarbińskian notion of praxiology as the general study of research methodology with particular interests in the efficiency and effectiveness of practices. The other cord is the systemics of praxis. It examines the interrelationships within and among various practices that comprise human activity (action) systems. Over the course of the book, both cords are turned closely together and bound to human inquiry.

It is through human inquiry, namely processes of discovery, investigation, observation, and questioning that the nature and substance of change are revealed to us. Further, it is through the intentional formulation and implementation of defined rules and procedures that research can be undertaken. Research and inquiry are taken and used as synonymous concepts. Inquiry is one avenue to examine systemic change. It is important to keep in mind that the definition of research, in terms of human inquiry, has broadened remarkably over the course of twentieth century (Collen, 1995a). Accompanying the proliferation of specialized research traditions are bold moves to articulate general concepts and principles that cut across the variegated forms of human inquiry. It is the more general insights that may allow us to witness, experience, and comprehend systemic change. It is the challenge of this book to nurture this endeavor.

At this point, it is instructive to add that this treatment of systemic change should not be taken to mean passive non engagement, that is to say, being only the attentive witness to and the observer of human events. Contemplating human activity at a distance is certainly an essential aspect of human inquiry, but the action emphasis means immersion and participation in the process of inquiry, whereby the inquirer must confront the human side of doing research. Such confrontation may necessitate paradigmatic shifts to forms of research where the inquirer becomes more central to the process of inquiry. Such forms may mean knowing what it is to be subject to one's own research procedures (being the participant), as well as proactively collaborating with others to bring about systemic change through collective action. The former has its association with research traditions derived from auto-inquiry (Reed-Danahay, 1997), while the latter is rooted in action research (Argyris *et al.*, 1985). Most forms of human inquiry are better understood in terms of an ongoing interactive process between action and reflection that shall become most evident when we look at forms of the Kolb learning cycle in the latter portion of the book.

Action means doing what is necessary to move, alter, and transform present states to those more adaptive to what one envisions, whether executed in a solo or collective fashion. There is an ongoing tinkering, experimentation, and innovation within a viable human activity system. Variations from routine today help us to see the way to what may well become the efficient and effective practices of tomorrow. Circumstances and situations continuously challenge and demand the changing of the system to sustain the system. Predominant in thinking earlier in the twentieth century (Buckley, 1968) was the classic emphasis on working within and returning to stability points within an equilibrious homeostatic system. Such stability points or states serve today as informative though transitory points of reference, not permanent anchors. In this century, chaotic, designerly, planful, action oriented, and pragmatic perspectives are guiding our efforts toward systemic change. This integrative formulation of a praxiology for systemic change reflects a prevalent shift in thought within systems and cybernetics oriented communities.

In ambitious renditions of systemic perspectives (Jantsch, 1980; Laszlo, 1991; Miller, 1978; Prigogine and Stengers, 1984), dynamic principles based on physical and biologically based processes have been applied to all kinds of systems. As controversial as isomorphic inferences can be, the shift involves provocative transdisciplinary applications and theoretical extrapolations that attempt to unify into one arena for human inquiry all kinds of systems — biological to social, local to global, natural to artificial, physical to psychological, real to virtual, and simple to complex — to transcend conventional dichotomies.

This volume of Praxiology: The International Annual of Practical Philosophy and Methodology brings together three overlapping and interdependent realms: systemic change, praxis, and human inquiry. Weaving them altogether is the challenge of this book. The key term in this endeavor is *through*. It is through the interplay of forms that an emergent realm becomes a lens to study, describe, understand, and bring about systemic change. This emergent realm may be experienced in conducting the Activities and Exercises described at the end of each chapter. The questions posed in the remaining sections of this introductory chapter are also to highlight the impending convergence of the three realms.

#### 2. Systemic Change

The idea of systemic change alludes to the property of a systemwide alteration. It refers to our expectation of the same. In hindsight, what was, is not what is now. It means the human activity that constitutes the system is different in some profound way. But what does this mean exactly?

It may mean that people in the organization communicate differently than before, for example, face-to-face meetings have been substantially replaced by email communications and teleconferences. Telephone purchase orders, formerly routed through the company warehouse, are now filled by a separate distribution company. The teacher used to be entirely in the classroom, executing lesson plans and delivering prepared lectures. Now the instructional material is to be found in web sites with online participation. Two years ago, a middle manager of a large transnational corporation worked simultaneously on several projects under the supervision of one department head and the lines of authority were clear. But today, she has three superiors at any given time for the same variety of projects, and she reports to each one of them. These examples suggestive of systemic change raise some fundamental questions.

The following kinds of questions give direction to inquiry:

- □ What catalyzes systemic change?
- □ From where does it originate?
- □ How much change must occur to label it systemic?
- What distinguishes systemic from non systemic change?
- □ When does it occur?
- □ How long need a certain change occur to bring about effectively a system-wide change?
- □ Can one see such change coming before it occurs?
- □ Where does it occur first, second, third, and so on?
- □ What characterizes its progression and process?
- □ Who makes it happen?
- □ What is it exactly, since the definition and boundaries of a system are often elusive, and themselves changing?
- □ What means can we use to detect, measure, experience, cope with, and manage a system-wide change?

Beyond the more fundamental and obvious questions, other intriguing questions arise, such as:

- □ In what ways can systemic change be created?
- □ What nourishes it?
- □ What sustains it?
- □ In what ways can it be predicted and controlled?
- □ What is the nature of its complexity?
- □ Are such changes cyclic, transformative, evolutionary?
- □ What is the dynamic in system-environment relations that can account for the system-wide change?

#### 3. Praxis

Praxiology can provide a means to answer the questions posed that pertain to systemic change. The focus is on human practices, specifically those forms of action taken to bring about systemic change. Paradoxically, it is those practices that, by their very execution, come to define and manifest systemic change.

The praxiological emphasis brings focus to particular aspects of the conduct of practice, such as the effectiveness of a specific act, the efficiency of executing a procedure, and the efficacy of a result of collective action.

Street signs that state "one way" define traffic flows within the downtown area of many cities in the United States. Placement of an island sink and counter top in the middle of the kitchen of many homes structures the flow of human activity in food preparation and consumption. The sequence of agenda items influences the course of decision making in corporate business meetings. Reading to one's child at bed time may instill an attitude for the book relevant to the child's cognitive development and engagement in the school. These examples suggest more specificity may be brought to the questions raised earlier in regard to systemic change.

Some refining type questions illustrative of praxis are:

- □ What constitutes an effective systemic change?
- In what ways are current practices effectively bringing about systemic changes?
- In what ways do current practices need to be changed to effect a systemic change?
- □ What makes this action more efficient than that action?
- □ Which practice is the more efficacious and on what grounds is it so?
- □ What are the ethical issues to be considered in regard to a systemic change?

- □ What are the ethical issues associated with specific practices?
- □ What are the positions taken on the ethicality of a systemic change?
- □ What is it about the innovation on practice that is more economical than the current and standard practice?
- What is the economical impact system-wide of this systemic change?

The above questions become very practical *through* inquiry, thereby illustrating what happens when a more general question posed about systemic change is reformulated in more concrete terms praxiological.

#### 4. Human Inquiry

The doers of inquiry are typically presumed to be the human beings that comprise the human activity system. It is frequently assumed that humans are the responsible agents studied and the key constituents of the system acting to bring about systemic change. Hence, usage is made prevalent in this book of the phrase "human inquiry," in conjunction with such phrases as "disciplined inquiry," "research," research process," and "human activity systems."

Human inquiry brings the discipline, healthy skepticism, curiosity, and open-mindedness of science to the pursuit of systemic change. In a positive and constructive fashion, it is important to question and query. A wide range of rules and procedures are available for research with human beings. To make use of rules and procedures for inquiry, as feasibly and humanely as possible, is to be self-evident, conscientious, and ethical in our praxis.

The process of inquiry can begin with the posing of questions, such as those given earlier. But underlying research questions are taken-for-granted type questions, hiding many assumptions made about a social system and the very nature of human inquiry itself. These questions are intended to surface implicit assumptions and foster a more reflective, critical, and profound exploration of systemic change. Ironically, it may be through the answering of the hidden type questions that we become cognizant of systemic change, emphatic in the *through* in the phrase, "systemic change through praxis and inquiry."

Some taken-for-granted type questions prompted by acts of inquiry are:

- □ What characteristics and properties of human inquiry are relevant to systemic change?
- □ What forms of human inquiry can be applied with the expectation of a systemic change?
- Under what circumstances does human inquiry contribute to systemic change?
- □ At what points in the inquiry process can we find evidence of systemic change?
- □ What can we do through inquiry to provide selfcorrective actions to steer systemic change?

But the questions may center on those conducting inquiry rather than the process of inquiry. Some illustrations are:

- □ What patterns of interactions among inquirers foster and sustain systemic change?
- What skills and talents among inquirers are necessary to implement this systemic change?
- □ Are there unintended biases in our inquiry with system-wide consequences?

Finally, questions stemming from the perspective of human inquiry may also help us reflect on the system of which we are part and change. Some questions of this kind are:

- □ What information flows in our inquiry are also those inherent in system-wide changes?
- □ In what ways can our inquiry guide systemic change?

- What shall we do to accommodate our inquiry when systemic change of external origin effects our inquiry?
- In what ways does the diversity of those who define the system manifest the system-wide changes?
- □ What can be done to sustain inquiry as an inherent and effective process of monitoring systemic change?

#### 5. Focus

In the context of this book, the phrase "through praxis and inquiry" means that one brings presence-to-action. In so doing, one embodies a praxiological engagement in systemic change. Such engagement means cultivating systemic change by means of a proactive, designerly, planful, action oriented, and pragmatic praxiology.

Although tempting to stretch bidirectionally, to both macro and micro levels relative to the human being, this treatment of the subject remains as much as possible about the person and persons at the level of the small group. Special interest is given to research teams, working through collaborative and cooperative means to bring about macro level changes.

However, a critical concern must remain whether we can examine, speculate, and extrapolate our actions as well as our personal experiences of presumed system-wide change to levels more macro than ourselves. Globalizing trends represent one such macro level concern acutely illustrating this inferential dilemma.

The focus on systemic change through praxis and inquiry will unearth numerous questions reflective of the critical concern about inference. It is perhaps one of the chief dilemmas every researcher must confront, sooner or later, to engage in systemic change through praxis and inquiry. Some of the questions likely to surface that convey this concern are:

- Can the inferences inquirers make close the gap between the perceptions of individual human beings and the changes of their system as a whole?
- Do such inferences, in fact any inference, hold verticality, and if so, to what degree and in what ways?
- □ What sources of evidence are admissible for inferential purposes?
- □ Is a particular inference justifiable through various sources of evidence?
- Does the evidence validate emergent system-wide change?
- At what point, and under what conditions and circumstances, can we know whether the evidence can be taken as reliable and valid of systemic change?

Herein lies both the Herculean arm and the Achilles heel of our work. The evidence of systemic change germinates from human activity. Whether the evidence stems from the macro, personal, or micro levels, it is critical to our detection of systemic change that we be able to perceive it. The evidence as perceived enables us to construct and bring to visibility the system to which we attribute change. In the study of human activity systems, even though the person (oneself) is the constant point of reference, the system is typically very much more macro, namely, families, clubs, associations, agencies, firms, businesses, schools, communities, corporations, networks, ethnic groups, societies, cultures, geographical regions, and their related detectable globalizing trends. Our inferences are only viable to the extent that our evidence, and our means to obtain and use it, serve our quest to understand, explain, and better the system. In short, our research methodology has to be effective and efficacious to engage successfully in systemic change through praxis and inquiry.

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#### 6. Activities and Exercises

At the end of each chapter, a small number of activities and exercises are given brief description. Readers are encouraged to do them in solo and small groups to bring the concepts and ideas discussed in the chapter to life. In this fashion, it is intended that this book be used in various applied settings.

The author invites those who do them to create their own activities, exercises, and variations from those described. The author welcomes evaluative feedback and to be informed of the results.

1. Describe the key constructs of this chapter (systemic change, praxis, and human inquiry) as relevant to an applied setting familiar to you, such as your home, neighborhood, school, or work place. Define the key words chosen to describe the three constructs. The body of terms form a conceptual system to think about what may be done in the form of an inquiry to bring about a systemic change. As three overlapping circles may create a center, use the three key constructs to describe a focus that unites the three overlapping realms discussed in the chapter.

2. Select one question among those found in the chapter that sparks your imagination. Generate a focus to answer this question by defining systemic change, praxis, and human inquiry relevant to this question.

3. Discuss the problem of inference in the study of systemic change. What is the place of research methodology to close the inferential gap? Define the inferential dilemma as you see it. Define the inferential gap. Apply your definitions to a human organization that would make them relevant and illustrative of the challenge researchers face in engaging systemic change through praxis and inquiry.

### Change as a Systemic Idea

#### 1. Introduction

To refer to change as systemic change is to expect detectable altercations within and between all parts of the whole. It is to anticipate the presence of something different in many locations throughout the whole. It is to expect expansive contrasts between what was, what is, and what could be. It is also to expect that one can attain a comprehension of the complexity of the system which one observes and is part. It is to anticipate the ability to exercise a means, that is a research methodology, which makes wholistic comprehension possible.

By necessity this chapter is a broad stroke of the brush. To sharpen contrasts between any change and systemic change, it is helpful to relate change to two other general ideas: development and evolution. Change must also be given preliminary definition in regard to space and time, as these two constructs determine much about what change is taken to be. After doing that, these considerations are connected to praxiology. Near the close of this chapter, a conceptual frame for human inquiry is given to set the stage for the subsequent chapters. The coverage may be viewed as an initiative to contextualize the confluence of systemic change, human inquiry, praxis, and praxiology.

#### 2. To Change, Develop, or Evolve?

The Heraclitean phrase "you cannot step into the same river twice" and von Baer's Law "ontology is the recapitulation of phylogeny" are two of many extensively repeated expressions about change. Though aphoristic in nature, such expressions often convey multiple meanings of relationship among the constructs change, development, and evolution. Their denotations reveal great overlap of meanings (Collen, 1998a). However, their connotations caution us to be careful in scientific contexts. One basis of distinction is longevity, while another basis is permanence. One can define change as the shortest lived, and development as that which lasts longer than change. In this vein, evolution is that which takes longest to occur. However, it is not just the span of time that is used to distinguish them, but also the length of time of an apparent stasis that defines their longevity and permanence in regard to a system.

A topographical and semantic comparison is useful before connecting systemic change to praxis and human inquiry. Figure 1a, based on Collen (1998a), depicts change in a nested relationship with development and evolution. The lower half of the figure embeds change in terms of micro level unfoldings that give rise to macro level development, which in turn may be distinguished from more macro level evolution. In contrast, shown in the upper half of the figure, change is the overarching rubric for the conceptualization of all entities in regard to their longevity and permanence. Some of these entities by their very nature develop, and fewer still evolve. In other words, the latter perspective views development and evolution to be specialized cases of change. To comprehend fully, Figure 1 is to be seen in dynamic terms. It is the flip-flop between the two sets of nested figures - a verisimilitude of the familiar Gestalt figure-ground object of our perception, such as the Necker cube (Figure 1b) that reveals this wholistic conceptual system. The two arrows