

## **HUMAN SCIENCE RESEARCH: An Important Focus for the Next Century**

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### **Salutation**

It is an honor and pleasure to be part of your first International Conference, Humanistic Psychology Towards XXI Century. I wish to thank the organizing committee and all present for your invitation and the opportunity to contribute to this historic occasion. The illustrations of my paper, taken from Collen (1994b), run in parallel to the text to provide you with two complementary means to consider my points.

### **Introduction**

Over the course of the twentieth century a wide range of research methods for the study of human phenomena have appeared (Collen 1995a). Humanistic Psychology and related disciplines, comprising historically the Third Force in psychology in the United States (Bugental, 1964), have lent clear impetus to the methodological developments. In this paper I highlight the interests of humanistic oriented researchers evident in this century and urge continued attention to human science research methodology as a high priority for the next century.

We live in a time of great interest and activity in research methodology for human inquiry. Advancements in methodology which are accompanying the increasing globalization are particularly relevant to the revitalization of humanistic psychology in various sociocultural contexts around the globe. One contemporary reformulation of humanistic psychology adopted in this paper is in terms of a general orientation to human science and its forms of human oriented research methods spanning those fields of study that take great interest in the human condition (Collen, 1990).

### **Human Science, Knowledge, and Research**

It is fashionable to answer the question "What is human science?" in reference to an eruption in recent history---the middle of the last century in several western European nations---in which philosophical debates centered upon the relevance and application of natural science to the study of human phenomenon. But I prefer to approach the beginning of the next century with an answer in relation to the successful proliferation of our species in bringing about what the vocal minority profess is our contemporary local-to-global predicament (Illustration 1). As science is often expected to find both cause and cure for the maladies of humankind, it is responsible that we seek a deeper understanding of the question as it is relevant to the present and likely future context of subsequent generations of human beings.

An alien comes to earth in our year 2000 and samples from various sectors of the planet the activities of the masses of humanity. The alien notes that the three largest human businesses worldwide are, in their order of size:

first-PETROLEUM    second-WEAPONS    third-COFFEE

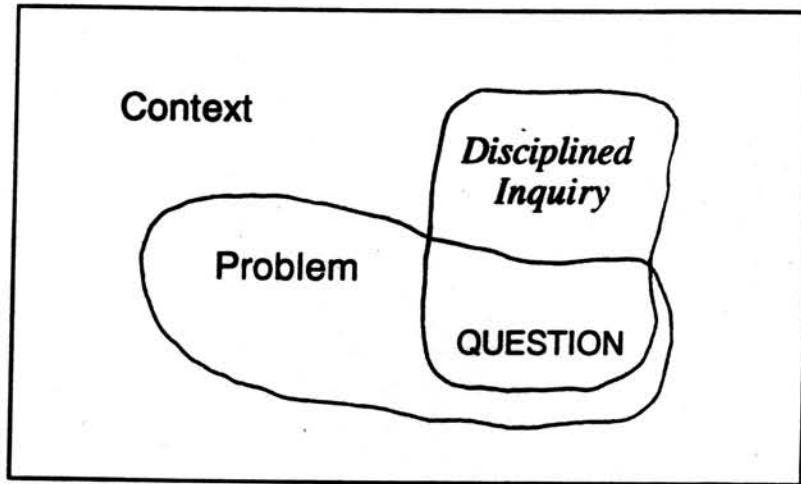
From this observation, it is obvious to the alien, who is able to report back to the home planet, that the dominant species on earth is a living being that has two legs, two arms, and spends its active life producing energy with and for machines, in order to move about the planet killing each other and drinking coffee.

Furthermore, with this observation and after much discussion, the following entry appears in the alien's *Intergalactic Dictionary*:

Human Being
<p><u>Definition</u> The name given (also <i>homo sapiens</i>) by the dominant lifeform on the third planet (<i>earth</i>) from helios (<i>sun</i>) to themselves, that exists to produce energy by and for machines primarily of locomotion, so as to make war on each other and drink coffee, in this order as their resources and circumstances permit. [fr.c.1995 visitation]</p>
<p><u>Summarization</u> The lifeform on earth building a remarkable variety of prisons to live inside and throw away the key, aspiring to inprison the entire planet. [fr. <i>Logbook of the Intergalactic Council</i>. Entry No. 2000-3724]</p>
<p><u>Conclusion</u> As human beings are likely to exterminate themselves and other life forms on the planet, further visitation to the planet may be of little interest.</p>
<p><u>Recommendation</u> Schedule next visitation in the year 3000 to reconsider the accuracy of the dictionary.</p>

Illustration 1. An example of observational method.

Science conveys to me the idea of a disciplined pursuit in order to comprehend (Illustration 2). It is first a process and second a result. The process is that of discovering by means of rules and procedures, and the result is the discovery.



**Illustration 2.** Disciplined inquiry is a formalized means to pursue a question as a focus for research in a problem context.

The process becomes a way of knowing and the outcome some form of knowledge, in this case about human beings (Illustration 3).

Ways\* of knowing by the METHOD of

1--TENACITY

What one believes firmly is the truth.

2--AUTHORITY

What a recognized expert states is the truth.

3--INTUITION (a priori)

What agrees with reason and makes sense is the truth.

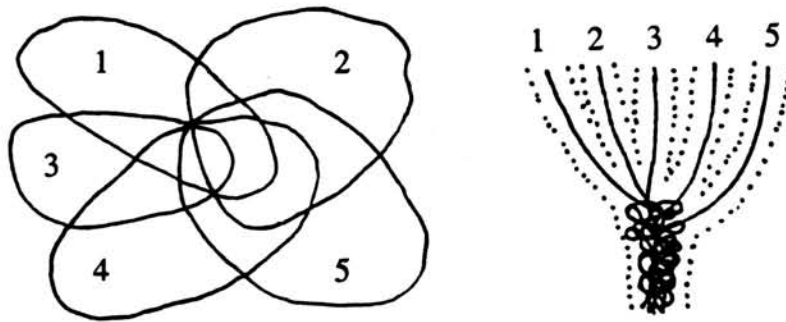
4--SCIENCE (experiment)

What passes empirical test is the truth.

5--EXPERIENCE (personal "reality")\*\*

What is acquired through direct experience in the world is the truth.

provide a confluence of consciousness of everyday life.



TOP and BOTTOM VIEWS

SIDE VIEW

\*Scheme based on Peirce (Buchler, 1955).

\*\*Proposed by Heppner et al. (1992).

**Illustration 3. Confluence of the ways of knowing as ways of fixing belief.**

More recently, scientists have come to understand that the process is more creative than previous assumed, and consequently some forms of science involve not only discovering, but also creating (Collen, 1995b). The status of knowledge has taken on a more temporary, transitory quality, as scientists create more informative and useful manifestations of knowledge, periodically revising their knowledge to better reflect their comprehension of what human being is and what it means to be human (Illustration 4).

**HUMAN** [L. *humano* - man]

1. having the qualities or attributes of human being.
2. a human being (*ie. homo sapiens*).

**SCIENCE** [L.- *scientia* - knowledge; f. *scire* - to know]

1. the state or fact of knowing; knowledge or cognizance of something specified or implied; (in Philos.) as opposed to opinion or belief.
2. knowledge acquired by study.
3. a particular branch of knowledge or study.
4. (more restricted sense) a branch of study which is concerned either with a connected body of demonstrated truths or with observed facts systematically classified and more or less colligated by being brought under general laws and which includes trustworthy methods for the discovery of new truth within its own domain (17th and 18th century use of Philos.; contemporary use of science).

**RESEARCH** [It.- *cerchier* - to seek; Sp.,Pg.- *cercar* - to surround; late L.- *circare* - to go around; f.- *circus* - circle]

1. a search or investigation directed to the discovery of some fact by careful consideration or study of a subject; a course of critical or scientific investigation; investigation, inquiry into things.
2. to look carefully, to explore, examine thoroughly, scrutinize for the purpose of finding, studying, discovery.
3. to search again or repeatedly.

Source: *The Compact Edition of the Oxford English Dictionary*. Oxford University Press, 1971.

Illustration 4. Definitions of terms.

### **A Perspective for Present and Future Research**

My approach to research is both general and generic (Collen, 1994ab). By that I mean that I look for and apply the same concepts and principles across various disciplines and fields of study pertinent to humans, and I scrutinize the specificity and applicability of such constructs to particular investigations of human phenomena. I take no interest in one form of science to the polemical rejection and promulgation of another form of science, while at the same time I recognize that one may construe my methodological position as a polemic for the position it advances. Nevertheless, as the phenomena of interest in my professional work concerns human beings, those sciences directly relevant to people, I term the human sciences. And as a research methodologist, it is the research methods of these sciences which constitute my preoccupation. That is, I study those research methods which scientists use to study human phenomena, and I term such manifestations of inquiry human science research methods. As the forms of science differ, or perhaps more accurately advance, the forms of method do also. In the passion of this pursuit, it must be clear that the researcher does not ignore the historical origins and contributions to methods but builds upon them. Today one must imagine the vine, such as the honeysuckle on the trellis of methodology, that grows towards the sun with many methodological branches that cross and intertwine eventually with each other.

## **The Expanding Face of Human Science Research**

Interestingly, scientists devote much time in the process of discovery and creation to both the phenomena under study and their methodology. By this I mean that scientists invent, refine, and improve their technologies, techniques, and various means of inquiry in their pursuit of knowledge about human beings. There is an important and reciprocal relationship between what we know and the science we employ. Advances in science technology, for example, lead to advances in scientific knowledge, and vice versa.

However, human science research is changing in another fashion. In addition to greater recognition of creation in the acts of scientists, the aim of science is undergoing a genuine expansion (Illustration 5). This expansion is coming to redefine what we mean by human science (Collen, 1995b).

DESCRIBE  
TEST  
EXPLAIN  
UNDERSTAND  
EVALUATE  
DECIDE  
CRITIQUE  
CHANGE  
> Ameliorate (Improve, Better)  
> Emanicipate (Liberate)

### Foci to assess human science research

- ⊗ Whose interests are to be served through inquiry?
- ⊗ What priorities are to be maintained during inquiry?
- ⊗ What purposes are to be fulfilled by inquiry?

Illustration 5. Some aims of human science research.

In traditional forms of science, such as the natural sciences, it was once assumed that the scientist, a skilled observer standing somewhat aloof from that which is studied, need only apply the proper methodology to reveal the workings of nature. Answers to research questions exist; they await the clever scientist to uncover them. The assumption of objectivity is a salient example of one historical paradigmatic assumption which influenced the scientist's attitude toward the conduct of inquiry. A common pool of such assumptions form the basis for an arena of inquiry, that is, a community of scientists who share various assumptions about reality, humanness, and disciplined inquiry (Illustration 6). It is from such communities that various research methods arise.

**Instruction:** Select 1 or 2 in each case.\*

A human being can be described meaningfully in terms of:

- 1- his behavior
- 2- his conscious

A human being is:

- 1- predictable
- 2- unpredictable

A human being is an information:

- 1- transmitter
- 2- generator

A human being lives in:

- 1- an objective world
- 2- a subjective world

A human being is:

- 1- a rational being
- 2- an arational being

Each human being is:

- 1- like other human beings
- 2- is unique

A human being can be described meaningfully in:

- 1- absolute terms
- 2- relative terms

Human characteristics can be investigated:

- 1- independently of one another
- 2- as a whole

A human being is:

- 1- a reality
- 2- a potentiality

A human being is:

- 1- knowable in scientific terms
- 2- more than we can ever know

\*Based on Hitt (1968).

### **Illustration 6. Contrasting views of humanness.**

Moreover, in this century, it was recognized that the knowledge of the scientist is both public and personal, and both may be socially based constructions bounded by the scientist's world view. One interpretation of human phenomena may not represent those of other scientists or general laws of nature. Doing science extended from active reflection upon what one is doing to include interaction with the phenomenon studied and participation in an ongoing dialog and critique of findings and methodology (Illustration 7).

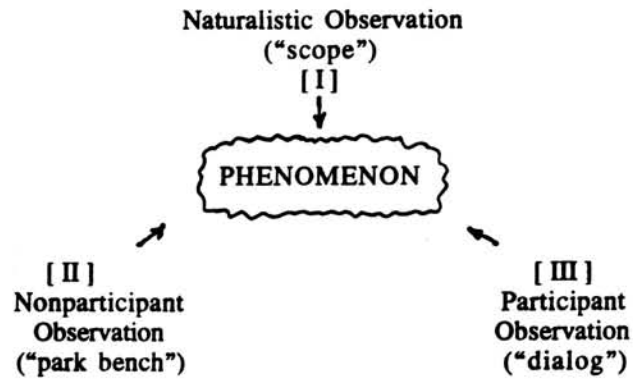


Illustration 7. Constructing an observational methodology.

Though the usual outcome of participation in debates about legitimate forms of science is to favor one position to the rejection of the other, I believe what comes profitably from such discussion is a recognition by more scientists that multiple world views are relevant to science and our methodology can always be improved. Today, this recognition is needed more than ever. Each form of science has assumptions which may be at variance from the other forms, and importantly, each form of science serves somewhat different interests among scientists. And each form serves to delimit what we can come to know about each other (Illustration 8).



ARENAS OF INQUIRY  
*Ways of Knowing*  
(Types of Interests)

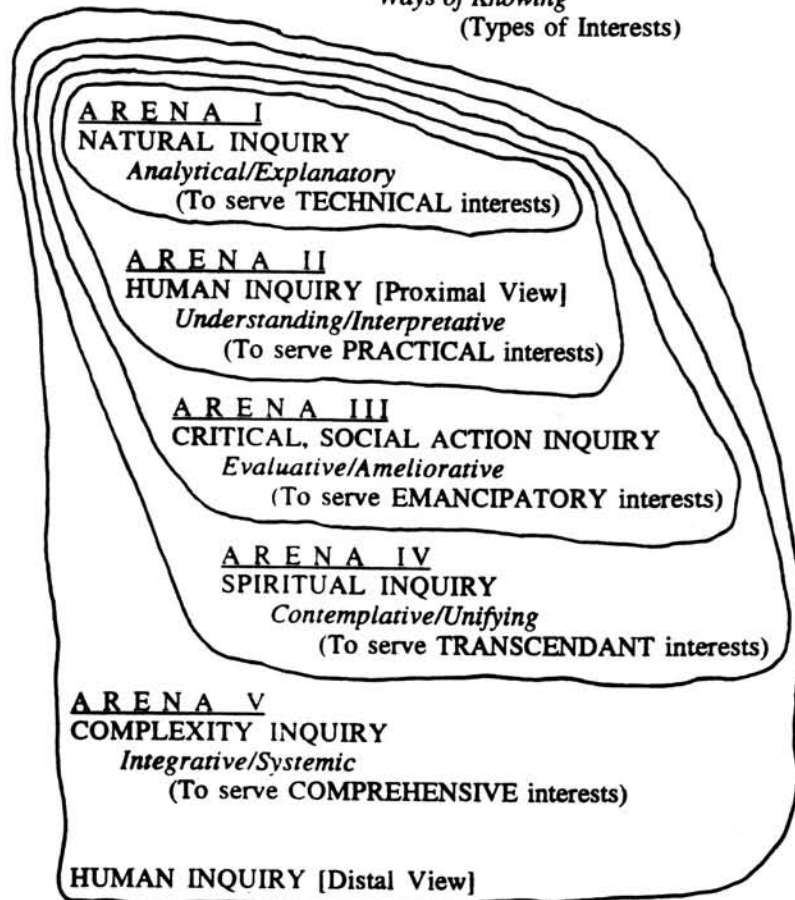


Illustration 8. Arenas of disciplined inquiry.

Specifically, where the natural science world view (Arena 1) appears to involve the discovery and formulation of knowledge which promotes public and consensually supported explanations of human phenomena, the more humanistic world view (Arena 2) appears to emphasize the personal understandings of the scientists and research participants engaged in the inquiry. Regarding the former, examine such sources as Gall et al. (1996) and Heppner et al. (1992), and for the latter, see Allender (1987), Barrell et al. (1987), Bugental (1967), Denzin and Lincoln (1994), Reason and Rowan (1981), and Valle and Halling (1989). Where the first arena is most known for observation of and experimentation with human beings, the second arena is perhaps best exemplified by hermeneutics and phenomenology when applied poignantly in forms of disciplined inquiry to the study of human phenomena. One is neither more or less important than the other; each provides a differing perspective and approach to come to know the phenomenon.

By the middle of this century, a third arena emerged in which the main aim of the scientist became the amelioration of the human condition. In this regard, note such sources as Argyris et al. (1985) and Whyte (1991). This arena of inquiry (Arena 3) has become known variously as critical/social action science, social intervention, and participatory action research, and its methods of conducting science are often at variance with those of the first and second arenas.

Though you see two more arenas shown in Illustration 8, I cannot go further in this brief paper to discuss these nascent arenas now emerging. Suffice it to peak your curiosity that evidence is mounting in the activities of scientists for spiritual inquiry (Arena 4) to examine more fully than antecedent arenas the spiritual aspects of human being, and for systemic inquiry (Arena 5) to seek fulfillment of claims that methodology is possible to study and describe the complexity of human phenomena at various interrelated levels of organization, specifically the intrapersonal, personal, interpersonal, and transpersonal.

There is by no means widespread agreement among scientists as to what constitutes scientific interests, scientific method, and scientific knowledge (Illustrations 8 and 9). The very foundation of science has been challenged in regard to the assumptions scientists make about purpose, method, and knowledge. Variations in position on these matters are evident in the assumptions, attitudes, beliefs, methods, and rationale of scientists who work in each arena of inquiry. Is it possible that knowledge can represent explanation, understanding, and amelioration? Are the means scientists use to fulfill these interests legitimate forms of scientific method? These are controversial subjects.

<u>Research whether a phenomenon</u>	<u>Rationale</u>
EXISTS	Ontological
IDENTIFIES	Epistemological
WORKS	Pragmatic
SATISFIES	Aesthetic
CORRECTS	Ethical
IMPROVES	Altruistic

Illustration 9. Idealized rationale to do human science research.

Having made these statements, it is most interesting to me to see the fruitfulness of attempts to meet the interests associated with one arena by means of methods historically affiliated with another arena (Illustration 10).

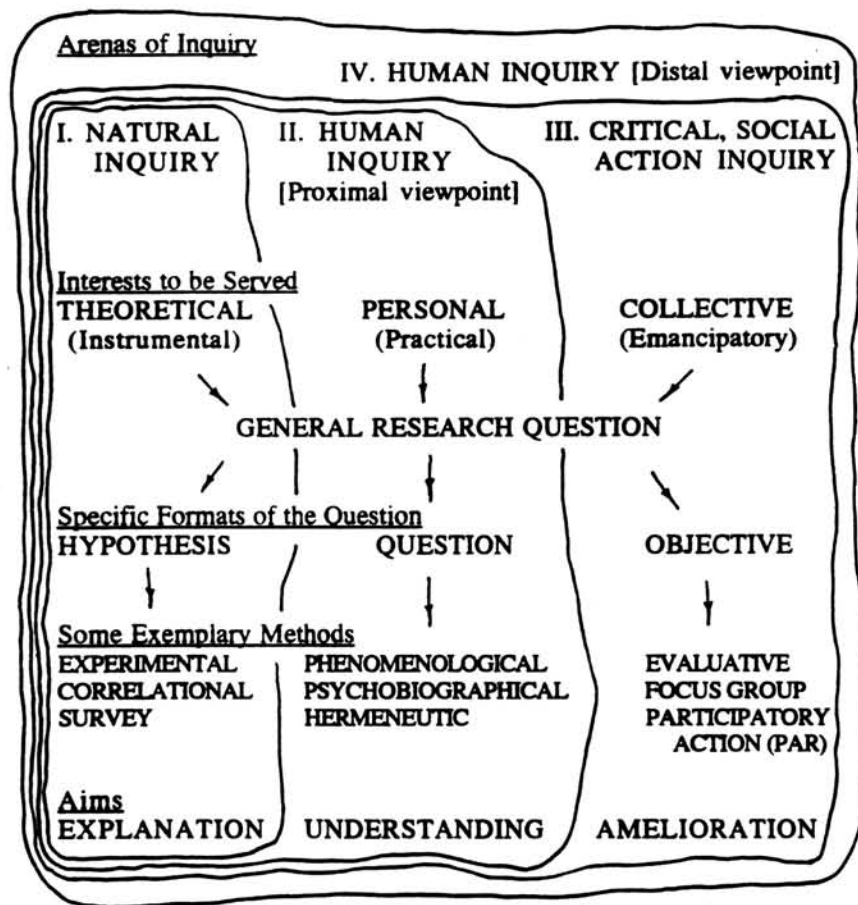
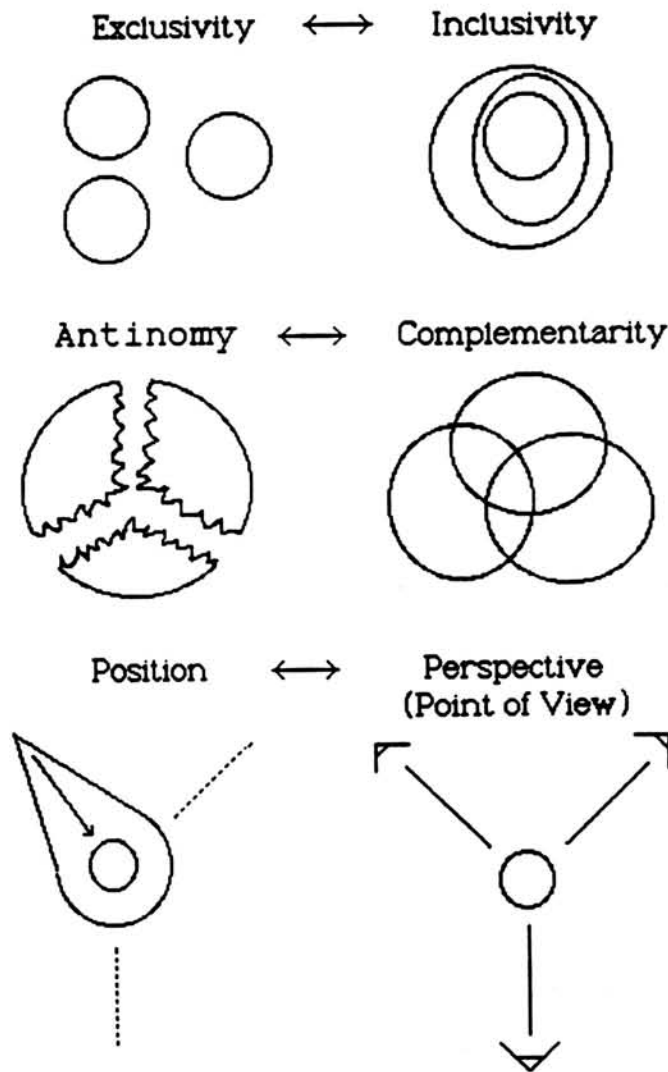


Illustration 10. Expressions of interest in three formats of research question that are linked to human science research methods in four arenas of inquiry.

To those who raise objections to paradigmatic cross-breeding, I think the evidence is arriving that these daring ventures in innovation have increased rather than impeded advances in human science methodology. Such innovation also helps scientists to discover the methodological concepts and principles that are isomorphic across the human sciences, thus providing a generic basis to a stable and sound foundation for human science. Science involves innovative, reflective, critical, speculative, and creative activity. It is this activity that guarantees the continued vitality and evolution of human science. Thanks to those scientists willing to risk nonconformity to paradigmatic boundaries while insisting upon rigor in their methodology, those interested in studying human phenomena have more viable choices and guidance today for the conduct of their inquiry than ever before in the history of science.

### **From Method to Methodology**

It is most challenging for me to work with the three arenas stated, because I believe they are not contradictory or opposing; to the contrary, they have an important complementary often inclusive interrelationship (Illustrations 8, 10, and 11). Currently, I am witness to many scientists in Europe and the United States who are exploring the uses of human science research methods generally speaking, making careful use of the generic emphasis taken in this paper (Illustration 11). They combine parts of different methods and sometimes even whole methods, according to general principles of methodology construction, to create a more productive, effective, integrative, perspectivistic, comprehensive, and informative human science research methodology (Brewster and Hunter 1989; Collen, 1994b and 1995a).



**Illustration 11. Some dialectics in disciplined inquiry applicable to the construction of human science research methodology.**

I provide two examples. Naturalistic observation (Arena 1), non participant observation (Arena 2), and participant observation (Arena 3) may be combined to construct an observation methodology, which is often the case in ethnographic research found in anthropology and sociology (Illustration 7). In organization/industrial psychology and management science, a social action research project may begin with a survey research instrument (Arena 1), followed by a research interview (Arena 2), and finish with a focus group research discussion (Arena 3), from which the researcher seeks convergence of findings in order to make recommendations to improve the participants' institution (Illustration 10).

## **Conclusion**

In sum, I believe that the three arenas demonstrate the multitude of interests among scientists, the dizzying array of methods now available for studying human phenomena, and a distinct set of purposes which the scientist must prioritize when engaging in human science research. Arenas of inquiry and their affiliated methods reveal the more contemporary manifestations of human science—perhaps more aptly described as a meta science—emerging at the turn of the century. The arenas reflect the underlying beliefs and assumptions that influence the conduct of inquiry. I expect more arenas to emerge with further advances of science. Our challenge as human research scientists is to mark the way to fruitful combinations of methods which can further the multiple interests of those who depend on the human sciences to address the human predicament.

## **A Question and Answer**

**Question:** Can you have a corrective tool that shows the assumptions made by the researcher, so that we know already what is being left out and what is being made visible in research by a particular methodology, and thus have a basis to know what we are leaving out as well as justify leaving certain aspects out?

**Answer:** I can respond with a reaction to and point of view toward the point of view expressed in the question. I think the movement of thinking in science has been toward greater acceptance that the researcher is a human being often manifesting the phenomenon under study, and the researcher is a central part of the inquiry. One cannot stand outside that which is studied as much as we would like to believe. If one hopes to adopt the position as outside observer in order to discover and examine what one has left out, it asks a lot of the investigation.

One of the paradoxes of doing research is that when one does a research project one must face being part of the process of inquiry. It entails formalizing and exercising basic cognitive processes, such as observing, analyzing, categorizing, and synthesizing, inherent in the conduct of scientific research. It means operationalizing the decisions one makes thereby making the inquiry possible and feasible. In this sense, one is always in the middle of the process, a part of it, and in part determining what it becomes.

In the very nature of the process of inquiry one cannot look at everything. The movement to become more perspectivistic in conducting human science research—to attain a more comprehensive and integrative view of the phenomenon—is an attempt to overcome the limitations one discovers working within only one arena of inquiry. As one studies the development of science over the course of this century, the research has become more complex; that is, there are more attempts to construct a cross paradigmatic methodology from among the methods historically affiliated with different arenas of inquiry.

The researcher (scientist, inquirer) must be willing to accept and work with several paradoxes, such as the whole-to-part-to-whole nature of the research cycle and the dialectic of subject-object in relating to the phenomenon studied. Further, it is often very frustrating to conduct research when one knows something is lost or left out with each decision to operationalize inquiry. Furthermore, working with human beings, one becomes intimate with the phenomenon, often uncomfortably so. One cannot stand always and completely on the outside, perhaps only momentarily. Interestingly, often what one studies is part of who one is. The interpersonal relationship of the researcher to the project and the participants of the project represent two key aspects of the human side of human science research.

To conclude, it is difficult and typically unrealistic to expect one to know in advance what is being left in and out, and the application of corrective tools may defer the better choice of design and plan for the research, and even alter the phenomenon itself. One key aspect of formulating scientific inquiry is find the productive fit that is a triangulation of what one intends to study, the research question (focus) asked, and the research method chosen to answer the question. I favor a middle path here between being too prescriptive in decision making on the one hand and too laissez faire on the other hand. However, this generalization is a bit too superficial, because the position taken by a researcher boils down to the decisions made in a specific research project. Clearly, we can benefit from the decisions of those who came before us, while remaining open to serendipitous events during the conduct of inquiry.

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