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THE AMBIGUITIES OF EDUCATION RESEARCH or CAN A RABBIT CATCH THE FOX?

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In this paper I will establish what I believe to be the connection between the theory of sets which has developed in the field of mathematics and research in adult education. Specifically, I will propose for discussion four postulates which underlie my own conviction that all research—in fact, all explanations of reality—are paradigmatic; that is, that there exist multiple sets in which the criteria and methods of educational research are to be defined. Finally, I will exemplify one research paradigm appropriate to the development of theory in relation to liberatory adult education.

Interpreting the World

In order to understand the world, we first divide it so that we can establish relationships between its various parts. Our difficulty in this task derives from the fact that the world can be divided in unlimited ways, each way influencing both what is seen and even what can be seen. In the classical example of the two observers, one of whom sees the donut while the other sees the hole, neither sees the whole donut. This division of the world into discrete realities is an inevitable consequence of observation itself. Perception imposes divisions upon the world which conceptually lead us to the creation of separate, yet simultaneous worlds, each with its own rules for interpretation, each with its own hermeneutic. Like the figure-ground worlds of Escher, we can only jump from one perceptual world to another by abandoning our earlier perception. On the horizon in figure 1, where birds and fish merge and alternately become the background for the other, we can only perceive the fish by obliterating the birds. Once identified, the objects of perception—the birds, for example—are able to move and the figure-ground separation is complete. This is one, but hardly the only way the world gets divided. Sometimes we observe worlds within worlds, as in the Escher print. Other times we might establish a discrete frame through which to

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view the world. We inventory all that appears within the frame and thus, by exclusion, identify all that stands outside.

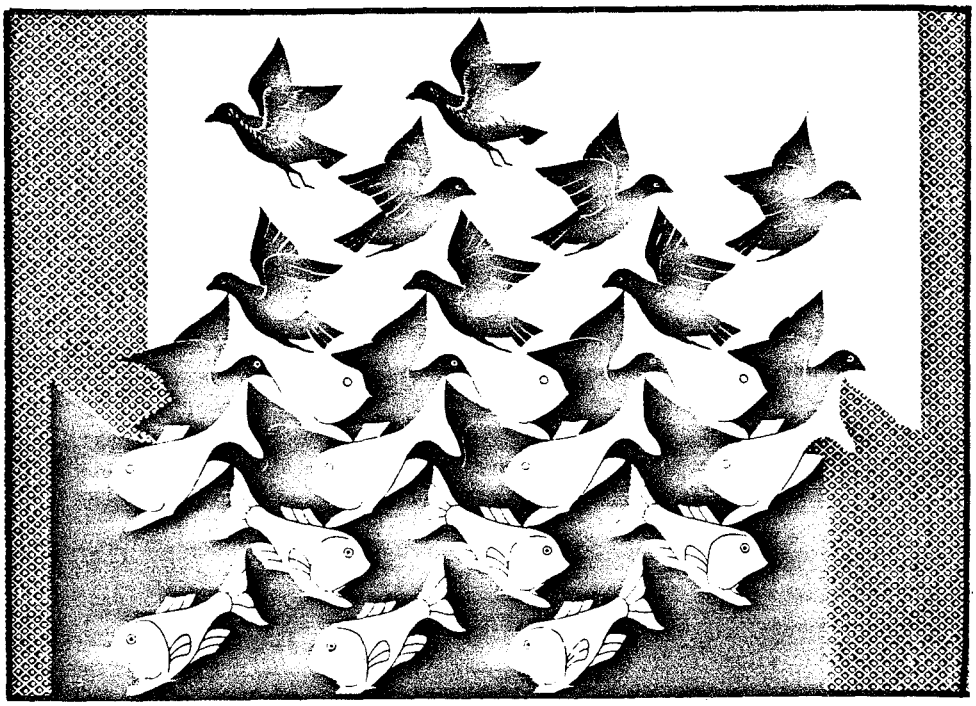


Figure 1

What does all of this have to do with rabbits and foxes, you might ask? Well, as an example of these discrete worlds, we can recall one of the tales of Uncle Remus in which Br'er Fox has captured Br'er Rabbit with a tar baby. The fox deliberated on the fate of his prisoner; first he proposed hanging, then drowning, and still other indescribable tortures. To each proposal the cunning rabbit replied, "I don't care what you do with me, long as you don't throw me in that brier patch." You'll recall that the pleas of the rabbit were finally too much for the fox, who grabbed the rabbit, swung him high in the air, and threw him headlong into the brier patch. Well, the fox waited for the screams of anguish he was certain would follow, only to hear the taunting voice of Br'er Rabbit singing in the distance, "Born and bred in the brier patch, Br'er Fox. I was born and bred in the brier patch." (Harris 1955, 12-13)

The point of this story is that there are two kinds of people: those who are born and bred in brier patches and those who aren't. This might not seem to be an important division to make, but if you're a fox attempting to do in a rabbit, it can be an important distinction indeed! The fox's great mistake was in accepting an interpreta-

tion of the brier patch world based on his own, limited, non-brier patch experience. The fox lacked clarity about his perceptual frame and was thus deceived into thinking that the environmental impact of the brier patch on the rabbit would be the same as on other sensitive, furry creatures like himself. Researchers face a similar difficulty when they fail to ask two questions: First, what manner of world am I dealing with? (i.e. what's within my frame of reference?) and second, are my assumptions and my tools of investigation appropriate to such a world? In urging the importance of these questions, I am suggesting that research methodologies are "world-specific," that is, they assume frames of reference which do not include all of reality. The point is, in observation we use division in order to interpret reality, but by dividing the world in one way rather than another we have already imposed an interpretation on the reality observed. According to the uncertainty principle of Werner Heisenberg, the observer of any paradigm is never outside the paradigm observed, and therefore can not claim objectivity in his or her observations. The observer can never be separated from the plane of observation. Mathematicians have a word for these discrete planes of observation and the rules appropriate to each; they call them "sets."

The theory of sets really began ironically when Girolamo Saccheri attempted to establish the once-and-for-all validity of Euclidian geometry. He did this in 1733. Instead he unwittingly brought its major weakness to the attention of the mathematical world. The weakness had to do with Euclid's theorem about parallel lines. According to Euclid, such lines, if extended to infinity, could never intersect. In point of fact, it had been the genius of Renaissance artists in their use of perspective to discover that parallel lines do converge on the horizon. (Fig. 2) It only

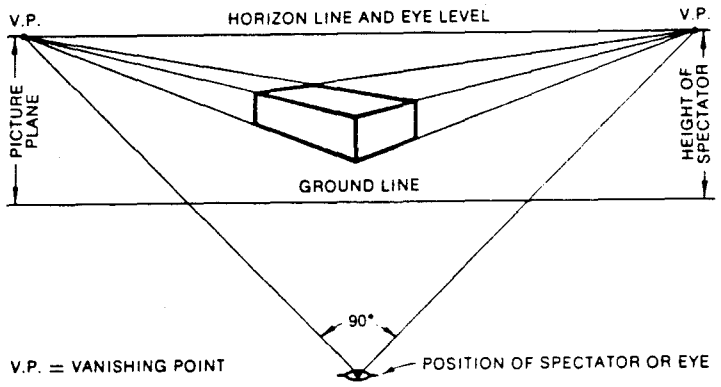


Figure 2

remained for mathematicians after Saccheri to develop non-Euclidian, hyperbolic geometry for the measurement of a non-flat world spinning in curved space. (Hofstadter 1979)

Forgive this apparent digression into mathematics, but it is important to note that even in the reputedly more rigorous "hard sciences," there are dicotomous world views, each demanding its own research methods. Furthermore, American research in the social sciences in general, and in education in particular, has largely assumed a statistical/mathematical form similar in stature and acceptance to Euclidian geometry prior to the 18th century. The appropriateness of empirical method to all questions is seldom doubted, which is to say there is little available research on research, and when such research is undertaken—as in Roger Boshier's recent article in Adult Education (1979)—the questions raised are peripheral to the research methods employed. (Roger looked in the mirror, you will recall, to find who was the greatest researcher of them all!) The trend toward quantification and complex statistical manipulation in adult education research was clearly presented by Gary Matkin in his paper presented to the Adult Education Research Conference in 1980. (Matkin 1979) Therefore, my use of a mathematical analogue gains greater relevance, given the present "state of the art" in adult education research.

Four Postulates

On what assumptions is a theory of sets advanced in educational research? I would like to propose for discussion and for further inquiry four postulates, some of which are capable of proof (at least within the sets in which they originate) and others are value-based assumptions which describe a frame, a world-view or philosophical perspective. These postulates challenge the hegemony of empirical research and are critical to the alternatives I propose.

The first postulate is this: The aim of social research is self-definition. There was a mathematician who once attempted to discredit the bumble bee by demontrating with very sophistocated mathematical arguments that the bee's body mass was too large and wing-span too short, and that therefore the bumble bee could not fly. The bumble bee listened patiently to all the evidence against him, and when he got up to give oral arguments on his own behalf, he didn't say a word. He simply flew

away. The point is, we ultimately judge any explanation or social theory by whether or not that theory "fits," by whether it satisfactorily explains us to ourselves. "Self-definition" is being used here, of course, in a social sense. If a community, a society, or the whole of humankind cannot find itself and its experiences well expressed and plausibly explained, the theory is rejected as—if not false—at least useless, like a pair of shoes that are too tight. Understand, I am not proposing self-definition as an epistemological principle, as a critereon for truth, but as a critereon for relevance in social research. However, that which might not have been true in social research is likely to become true once it is accepted as self-definition. Once social theory gains social acceptance, it becomes a self-fulfilling prophecy, and thus we will see, when we get to the third postulate, that social research enters into and becomes an interactive factor in the social world it has chosen to investigate. We have only to look at Karl Marx in the 19th century to see that the function of theory is not limited to explaining the world; theory can change the world as well. Social theory tends not to identify the stasis of society, but rather its aims. Thus, research can be said not so much to identify truth as to precipitate it.

This leads us to the second postulate: Change characterizes social reality. There are, I am told, animals whose eyes can only perceive motion; I believe the frog is one of them. Spiders and flies are in no danger of becoming the frog's dinner until they move. The social researcher is in a similar perceptual position. Relationships—the cement of the social order—can only be observed in the dynamic, ever-changing actions of members of that order. It has long been observed that societies never stand still, but are constantly in the process of growth or diminishment or both growth and diminishment in regard to different aspects of the social relationship. It is this motion, this direction, that is the object of social research.

The exception that proves this rule is descriptive research (or survey research), which I would contend is not research at all. It is merely a partial measurement of social reality at a given place and time, much as a carpenter applies a yard stick to a piece of lumber or a mechanic uses a caliper to determine the bore of a cylinder. Such measurements are not yet research, but might well be a necessary prelude to classical experimental design which inevitably has a before (which is measured) and an after (which is measured) and a change-inducing-treatment in between. Whether a survey is an appropriate yardstick we will discuss later. But here it is merely sufficient to note that a survey does not constitute research and the reason is that a survey does not, of itself, account for change. Since change characterizes social

reality, surveys do not account for social reality. Research into learning theory, into participation in formal schooling, into the effects of lifelong schooling, or into any of the myriad questions of concern to adult educators, is ultimately an attempt to comprehend and explain the rationale for change.

In going about this business of research, the researcher not merely observes change, but actually induces it. This is my third postulate: All investigative initiatives manipulate and transform reality. Philosophers of science have long debated the non-neutrality of observation and, more recently, have specifically begun to question the impact which observation has on the observed. (Bastin 1978; Hamlyn 1978) Noted physicist, John Archibald Wheeler, has concluded as a result of work in quantum physics that the eye physically shapes and alters what it sees. (Gardner 1979, 40) What is being stated here is not that the image of the object is affected by observation or otherwise distorted, but that the object itself is changed by reason of having been observed. This is clearer, perhaps, when observation is mediated by an instrument: a microscope for example. The usefulness of the microscope to reveal the characteristics of an amebic substance is enhanced not only by perfecting the image-producing characteristics of the lenses, but also by flattening the living matter between two glass slides to bring it into greater conformity with the two-dimensional limitations of the medium of observation. As the fingers alter the surface of an object they explore, so do other research instruments adapt and refine reality to the demands of the tools used.

Survey research achieves a similar adaptation of reality when asking a subject for an opinion on a matter about which he or she has not reflected previously. Being confronted with a question, a respondent is pressured to have an opinion. Even when the option of "no opinion" is provided, the subtle pressure to avoid appearing uninformed or dull frequently remains. Multiplying the number of respondents and aggregating the responses does not eliminate or even minimize the reality-transforming effect of the method. In fact, aggregating discrete data—as in national opinion polls—further transforms the reality under study by proclaiming as social reality opinions which were not the result of a social process, thus creating another form of self-fulfilling prophecy. Research on such polls has clearly demonstrated this "bandwagon" effect. (Katz 1972; Navazio 1977)

Such a critique of research method is commonplace, but it is not offered here as a negative criticism. Rather, it is an example of the transformation of reality

that occurs as any research paradigm pursues "objectivity." This is also to say that we are never neutral observers; our perspective and analytic frame of reference are always shaping the reality we observe, as well as being shaped by that reality. By taking on the stance of a researcher I intrude upon reality, I stand over and against it critically observing and forcing the reality before which I stand to yield its meaning. If you are the object of my study, I can enter this room in which you are now reading this paper. I can find an advantageous position from which to observe your reactions, your tendancy to distraction or to doze off, and any opinions you might reveal should another person interrupt your reveries. You might, at first, be vaguely aware that I am watching you. You can choose to ignor this, but my stare is likely to become an increasing source of irritation. I observe that you are becoming self-conscious. If you find it important to be well-thought-of you might adopt a posture and role which you feel would reflect well on your intelligence and social decorum. Or perhaps the irritation becomes anger or even fear, in which case I observe other dimensions of your personality. The important consideration is that much of what I observe is likely to be the result of my being present to you. I have, in fact, entered into dialogue with you; I receive messages from you, but at the same time I am transmitting messages which impinge on your reality and to some extent alter it. My perception of you is not thereby distorted; it is rather an adequate perception of you as perceived by me. This does not mean that my perception is "subjective"—at least not in the usual sense of that term. It rather means that all perception of social reality is intersubjective. I cannot avoid this intersubjectivity by hiding my observation from you, as behind a one-way glass. Even then I have intruded upon your space and time, hidden a portion of your world from you. This artificial, laboratory world I have given you is my word to you, influencing your response, placing you on a glass slide and shaping you to the demands of my microscope. Such, at least, is a phenomenological view of research and research methodology.

Given that the social world is characterized by change and by a direction, and given that research impinges on the world in such a way that the rate or possibly the direction of the world is changed, a fourth postulate would follow: Appropriate research method compensates for the manipulative/transformative effects of observation by directing its skew in a direction similar to the commonly, self-defined direction of the observed social reality. An example can be found in the way a film-maker observes a horse race. A stationary movie camera at close range would merely record

a blur or possibly nothing at all. So generally the camera will be used in one of two ways. It will be mounted on a vehicle running a parallel course to the horse and approximating the horse's speed, or it will be mounted at a distance so that it can pan the track, maintaining at the point of contact (that is, the horse itself) the same forward motion. Either of these latter strategies will yield considerable visual information about the race—usually enough to at least determine who won. The researcher faces a similar problem in observing the social milieu, characterized as it is by change. To be sure, change and direction in the social world are not generally confined to physical motion as in the case of a horse race or the migration of peoples. But more usually the changes of interest to the researcher concern ideological or paradigmatic shifts, the transformation of values, determinants of status, and thousands of additional conceptual categories—each a partial measure of the social phenomenon. Just as motion can only be observed by approximating—either directly or instrumentally—the motion of the moving object, so do other social measures require analogous approximations on the part of the researcher. Stationary, neutral observers don't wash.

Research Serving the System

In point of fact, research methodology in education has grown out of and followed parallel courses to the historical developments in educational practice. For example, the traditional practice of American education (modular, highly bureaucratized and centralized, graded, individualistic, competitive, etc.) has spawned research methods which encourage the self-definition of that system, that is, research yielding conclusions in which traditional educators can readily see themselves. The methods for such research are rigorously applied with the intended result of maintaining the system on a steady, even, and forward direction. Research conclusions produced by such methods can challenge educational practice, but not the assumptions underlying the practice as a whole. How could they, since the research methods share the same assumptions? To take one example, the emphasis on the competitive struggles of <u>individuals</u> to learn, within an overarching standard of excellence designed and applied <u>by experts</u>, finds parallel values in a research design which aggregates the responses of <u>individuals</u> and upholds the <u>privileged</u> position of the expert researcher to determine appropriate questions, analyze data, and disseminate the results. (The collection of data can,

of course, be relegated to a graduate assistant.) Another example: a system of education which emphasizes learning as a specialized activity, undertaken in a space and time apart from the other activities of daily life (that is, in a school), and which in fact devalues life experiences in favor of previously structured, sequential units or modules—such a system would be expected to devise research methods which eschew the secular values of common-sense knowledge, affirming rather the sacred values of discourse according to precisely defined canons which affect the validity of what is known and, more importantly, the academic status of the knower.

I suggest that it follows from these four postulates that research methodology in education is paradigmatic, that is, it evolves out of and has direct applicability to particular, historical, educational practices and the systems to which these practices give rise. Each research set derives its values and assumptions from a context which is both historical and concrete. To be sure, paradigms or sets in research overlap each other, as do the historical contexts which give them birth. While these sets are not mutually exclusive, no set is inclusive of all reality and thus all research is limited, not only in its achievements, but in its ability to achieve knowledge.

Educational research can borrow from more broadly humanistic disciplines to devise its methods, and has done so—disciplines such as sociology, psychology, and even the hard sciences. These disciplines, of course, are themselves paradigmatic, having differing and even divergent methods of inquiry not only between disciplines, but within disciplines as well. Research—all research—is an attempt to explain the world, and all explanations are paradigmatic, based on a point of view or a frame of reference. While we might be historically or socially determined to adopt one frame of reference, rather than another, choices have been made, if not by us then for us by our mentors, if not consciously then unconsciously. Therefore all explanations are ultimately moral positions, that is, explanations based on certain conscious or unconscious, individual or collective notions of choice and value. (Rousseau 1979) In the case of adult educators, these choices and values have become quite limited in scope, as compared with the humanities for example. The choices and values have been limited by the narrowing practice of adult education in the United States, by the increased institutionalization of adult education with the consequent reduction of adult learning to adult schooling, and by the emerging systemic which controls the previous two.

A Research Question: Can A Rabbit Outfox the Fox?

It is the purpose of this paper to challenge some of the hegemonic assumptions of any research methodology and to exemplify the implications of this challenge in reference to a research project undertaken over the past three years. (Heaney 1980) This research project examined what several adult educators have come to call "liberatory education." Based on an analysis similar to that introduced into third world pedagogy by Paulo Freire, liberatory education has developed in the United States as an essential component in the struggles of minorities for civil freedoms, in the organization of labor, in the efforts of local communities to become active partners in decisions of public policy, and in similar social movements for change. Liberatory educators begin with an observation about the social order: that order serves to consolidate the advantages of the few against the interests of the many. Liberatory educators assume that the constraints of this order can be transcended in a participatory, democratically constituted world. It is the purpose of liberatory education to empower adults to create such a world, and to do so by anticipating such a world in the social organization of adult learning itself. This purpose is diametrically opposed to traditional education which reinforces the present order through espousing two purposes that are frequently in conflict: to be <u>equalizer</u> and to be <u>selector</u>. Traditional education seeks to maintain equality of opportunity by its democratic availability, while at the same time selecting the brightest and the best for positions of leadership through the establishment of a meritocracy—a hierarchy based on academic merit. To the extent that traditional schools succeed in one of these tasks, the other is unmasked as an illusion. The American system of education seeks through these divergent purposes to maintain the social order and to adapt citizens to it. Liberatory education, on the other hand, seeks to change the social order. This creates a special tension for traditional educators who experiment with non-traditional, liberatory learning. Such educators are not unlike foxes in the brier patch. Similarly, great tension is the fate of liberatory educators who hope to build the future within traditional institutions.

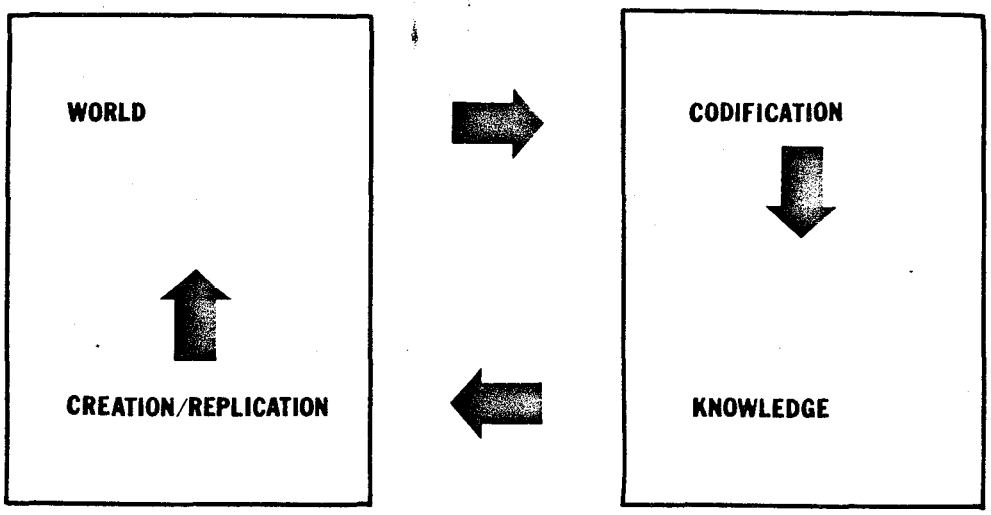
Since the early seventies there have been a growing number of attempts at liberatory education within traditional colleges and school districts. Levels of public funding and the search for new markets which accompanied the growth of these institutions led to experimentation with community-based and frequently community-controlled

adult basic education. Many of these programs proved to be eminently successful in attracting and maintaining enrollments, but as the seventies waned and as inflation led to a reordering of priorities for public spending, even the most successful of these programs frequently experienced alienation from their insitutional sponsors. This has led in some instances to an elimination of liberatory programs, in other instances to a redefinition of purposes so that programs ceased to be liberatory, and in still other instances to a privatization of liberatory programs, usually with greatly reduced budgets and enrollments.

The conflict between liberatory programs and their traditional sponsors was, in most cases, unanticipated and therefore not planned for. This failure was the result of an inadequate analysis of the purposes served by American educational institutions and, more importantly, an inadequate theory of liberatory education. It was in order to compensate for this latter deficiency that the present study was undertaken. I sought to understand the failure of liberatory education—its failure to <u>be</u> liberatory and its failure to achieve or maintain public funding. Can the rabbit outfox the fox? That is, can liberatory educators continue to enjoy the brier patch world and, at the same time, get the sly and foxy managers of traditional schooling to underwrite their expenses? Can the two worlds—two sets, if you will—coexist according to mutually acceptable rules? Is congruence between liberatory and traditional education possible? I asked these questions in order to move my own thinking and the thinking of other liberatory adult educators toward a theory of liberatory education.

A Congruent Methodology: Can Foxes and Rabbits Communicate?

The epistemological question which preceeds and informs the selection of any research method seeks evidence that the method is a guarantor of congruence between the "reality" which the research investigates and the codifications which the research hopes to produce. Ideally, the chosen methodology will maximize congruence between reality and codification in order to insure the subsequent congruence between <u>what is known</u> as a result of the research and <u>what we are thereby enabled to do</u>. In other words, the validation of research method guarantees the congruence between comprehensibility and replicability; what we know as reality we are thereby empowered to recreate. (Fig. 3) This "principle of double-congruity" underlies the validation of any research



DOUBLE CONGRUITIES

Figure 3

method and is critical in the selection of appropriate tools for the comprehension and codification of experience. Simply stated, the principle is this: congruence between the phenomenal world and its codification is demonstrated by the extent to which the codification makes possible the predictable manipulation and control of the phenomenal world. This principle embodies what is commonly acknowledged by researchers: namely, valid research produces meaningful results and results are meaningful to the extent that they are verifiable—that is, able to be tested in the world and ultimately make a difference.

Institutions and Research

A research method which does not share a social group's values and assumptions, but nonetheless attempts to understand that social group, is not likely to produce explanations which coincide with or inform its self-definition. However, some paradigms become so powerful that the knowledge they produce becomes an enforced orthodoxy. In such cases, research violates the reality it studies and is commonly used by the powerful to both justify their own dominance and to impose false self-definitions on others. An example of this is found in the continuing debate over the use of ACT and SAT scores to define Blacks and other minorities as academically inferior.

The results of such misapplied research are enforced by institutions having the power to limit admissions, prohibit advancement, and deny tenure. As many Blacks learn to internalize the "truths" upon which this discrimination is based, the "truths" become self-fulfilling prophecy and ultimately become destructive, self-definition for large segments of the minority population.

The canons of inquiry which derive from dominant institutions are frequently used to establish the hegemony of those dominant institutions and to urge conformity with its values and choices. Accrediting agencies, through their procedures for evaluation and self-study, are frequently an example of such intellectual demagoguery. One liberatory program in Chicago had, by consensus of the teachers and the adult learners, eliminated all testing, replacing it with collective contracts as a standard for the evaluation of learning. The Illinois Department of Public Aid, which provided some funds for the program, wanted to undertake research on the impact of the program on the reading scores of welfare students. The social and political dissonance which such research would have produced should be immediately evident. First, there were no reading scores because no tests had been administered. Second, the introduction of testing had already been determined to be alienating to the adult students in the program. And third, the proposed research would discriminate against welfare recipients by singling them out. In this instance the research never occurred, but in countless other programs dissonance has been created by similar imposition of alienating research methods. In short, the research methods appropriate to one paradigm are unlikely to be appropriate when applied to another. Empirical, quantified research is misapplied outside of the structures which sustain it, and is likely to produce results that are at best useless, and at worse destructive.

The point is not that traditional empirical research methods yield false results when applied to questions within, let us say, liberatory or other alternative programs, but rather that such research is not likely to facilitate self-definition within these programs and therefore is not likely to empower liberatory educators to do anything. Furthermore, and most importantly, this means that the development of general theory in adult education is not only unlikely to occur, but that such theory could only be developed at the expense of the richness of heterogeneous adult educational practice. The problem, in brief, is how are we—adult educators working in several discrete, paradigmatic areas, each with its own choices and values—how are we to talk with each other? Witness the recent attempt by R.W.K. Paterson to devise

a common philosophy of adult education in his book, Values, Education and the Adult. (1979) He does so only by excluding three-quarters of adult education practice.

Different Strokes For Different Folks

It was within light of this principle of double congruity that the earlier questions concerning the failure of liberatory education were addressed. A method of study was sought which 1) would assure the greatest possible congruence between observed social reality and resulting codifications and 2) would take into account the manipulative/transformative consequences of my being present to the social reality under observation. Concerning the first requirement, congruence depends, in part, on the clarity with which those values and assumptions underlying the self-definition of the observed social world enter into the codifications which I produce. In other words, the means of observation—whether it be the observer/researcher or some more formal tool of measurement—must, according to the principle of double-congruity, be encouraging of self-definition. Such self-definition is best assured when the research method itself promotes reflection and conscientization within the group under study. A research method which actively involves the "objects" of study as participants in inquiry will not only account for, but utilize the manipulative/transformative consequences of research in order to maximize the final congruence between codification and that which the studied group is empowered to do.

Such a methodology would be uniquely appropriate to the study of liberatory education and would have the greatest internal consistency with the assumptions of the programs under study. The research would be likely to shape these programs—as all research shapes that which it studies—in a manner consistent with the internal dynamics of the programs themselves. Liberatory programs are committed to interdependent learning. They eschew hierarchy and attempt to practice collegial and consensual governance. Research methods applied to such programs would do well to approximate these aims of liberatory education. For example, programs which, for pedagogical and political reasons, have excluded testing cannot be measured by the use of written instruments, no more than Euclidian geometry can be used to solve problems of intergalactic measurement.

The method I chose to investigate the apparent failure of liberatory education

combined the political assumptions of participatory research with the discipline of grounded theory as developed by Glaser and Strauss. (1967) I sought answers in an emerging theory of liberatory education. The major focus of my questioning was directed to persons engaged in the struggle to create and develop two liberatory programs in Chicago: the St. Mary's Community Education Center and the Universidad Popular. Both of these programs provided formal credentials to adult learners on the high school level. The persons with whom I entered into dialogue included adult students and educators, administrators, community persons who supported and hoped to benefit from such programs, and others whose experiences and interests shed light on the emergence of a pedagogy for social change in urban America. In fact, I had been all these kinds of people at one time or another, and sometimes had assumed many of their roles simultaneously. Each interview or discussion brought not only new thoughts and insights, but remembrances as well. These remembrances also are the ground upon which my research was to be built.

Interviews, most taking the form of informal conversations, were scheduled over a period of fourteen months with seventy-three adults. Most of these conversations involved small groups of three to six persons who collectively addressed questions regarding the liberatory assumptions and purposes of their program, their pedagogical methods, their governance, and comparisons between their present and previous experiences with education. Because I had been a colleague of many of the interviewees, I established a sufficient level of trust to use a tape recorder during most sessions, although I made it clear to the discussants that the tapes belonged to them and that nothing from the tapes would be used without their having an opportunity to review the material in the context in which I proposed to use it.

My purpose was not to accumulate individual perceptions of these programs and then analyze the resulting data in aggregate form. I sought rather, whenever possible, to allow thoughts about learning and society to take shape as they would in the programs themselves, to emerge within the interaction of the groups, and to find mutual acceptance. The picture which emerged from these discussions was not a picture of what was, so much as a picture of what ought to be in the minds of the discussants. In this way, the research redounded into strategies for action and there were numerous major changes introduced into the programs. These changes were a direct consequence of the reality-altering impact of the research itself.

As I began to put my own thought in written form—filtered through my own ex-

perience and perception—I was guided by what Glaser and Strauss have termed the "constant comparison method." (1967, 102) Data was gathered into categories which appeared to incorporate a variety of facts. As major categories emerged—tested for their usefulness in the group discussions—theoretical notations about these categories were put into written form and used as probes to determine whether the categories had predictive value, that is, did incidents and data cluster about the chosen categories so that new data was no longer needed to support them. As modifications of the provisional categories became fewer, the remaining categories became saturated with data. Codifications were developed to explain the underlying complexity of data, inconsistencies were exposed and accounted for, and theory emerged as the provisional integration of the remaining categories. As each of these incremental stages was reached, I went back to sometimes the same, to sometimes different groups, to see whether what I had captured in the more formal discipline of writing reflected their perceptions. Frequently these re-interviews (and re-reinterviews) generated entirely new areas of discussion, new data, and new categories, and the process would start again. Themes for our discussion were increasingly generated by the discussants themselves who, as they gained confidence in themselves and in the practical consequences of their study, assumed a greater share of responsibility for analysis and conclusions. New themes converged not only within, but between groups, and became the principal theoretical constructs. No previous attempt was made to obtain a "representative sample" in gathering the groups. Rather the emerging themes dictated the ongoing inclusion of new persons; these themes were constantly shared with dissimilar groups and occasionally with individuals and groups from other programs and even from other cities to test the extent to which consensual agreement could be obtained. In this manner the process of data collection was controlled by the emerging theory and by the expanding circles of participants in the study.

During months of discussion and analysis, the research ceased to be "mine." It was the collective effort of all who participated, not only as respondents and as primary sources of data, but more importantly as collaborators in the articulation of questions, the determination of appropriate categories for codifying and communicating new understandings, and the evaluation of emerging themes. The research methodology incorporated the political strategy of participatory research by achieving a reappropriation of the tools of research by those who would change, and not merely define the world. (Hall 1979) This strategy was congruous with the assumptions of

the brier patch world of liberatory education and thus gave greater assurance of convergence between the phenomenal social world being studied and the codification of that world in theory. In this regard, the research process became a form of liberatory education, for me as well as for others. The medium was the message.

Some Results: Defining the Brier Patch

While it would be beyond the purpose of this paper to fully sketch the research conclusions of the project just described, two conclusions have had major consequences for both programs. The first pointed to the fundamental contradiction between liberatory and traditional education. Each educational model is a set demanding its own rules of operation, study, and evaluation. As long as liberatory education is perceived by the purveyors of traditional learning as methodologically distinct, but not different in its social and cultural consequences, then it can be tolerated as a variation within the system. There is every likelihood that liberatory programs will be viewed this way by traditional educators who tend to interpret all approaches to learning as variations in pedagogical technique. Even the political language used to describe the purposes of the liberatory programs studied was usually interpreted by traditional school sponsors as a technique for increasing enrollments. As a matter of fact, publications of the City Colleges of Chicago—the sponsor of the two principal programs studied—now make frequent reference to Paulo Freire and "conscientization," as does the Brazilian military which exiled Freire in 1964. Such interpretations are encouraged by programs that promote themselves by appealing to the rhetoric of schooling and credentialing. Bureaucratic systems impose their own logic on liberatory structures and managers of education express great difficulty in understanding the need for special and exceptional procedures in relation to "alternatives." But the incongruities are acceptable on both sides until the praxis developed within liberatory programs so transforms learners that they can no longer maintain an uncritical stance in relation to the sponsoring system.

This is not just a possibility; it is highly probable if liberatory education actually occurs. The reasons for this are not difficult to comprehend. First, participants in liberatory programs will take an increasingly critical view of economic, political, and academic elites. Second, transforming initiatives against redlining

by banks, discrimination in unions, back-room deals in city hall, or economic exploitation by factories and businesses will force the academic elite to take an increasingly critical view of liberatory education, especially when such initiatives threaten an existing balance of power which includes the schools. And finally, empowerment within liberatory education will be effectively blocked by economic sanctions imposed by the institutional sponsor. The long-term cost of survival in the system might be that liberatory education cease to be liberatory. Which is not survival.

The programs which most easily survive are the ones that are not qualitatively different from, just better than, traditional adult education programs. That is, the survivors do the same things that all other programs do, only they do it more effectively. Effectiveness in this case means that enrollments, retention rates, and success rates (measured in terms of graduates, GED recipients, etc.) are significantly higher than in other programs within the system. This form of success not only makes survival possible, it usually means that incentives and other forms of encouragement will be provided to improve "effectiveness" even more. This is because funding for most school systems is tied into the numbers game, with annual budgets determined by the number of full-time enrolled (FTE) students multiplied by the number of hours these FTE's are present in the classroom. A liberatory program <u>might</u> be able to get away with training terrorists if it enrolled enough students, so important have these numbers become to the administrators of large city and state systems. The pressure for growth is uniformly imposed on all programs within public-supported education, when funds are contingent upon such growth; growth becomes the basis of economic security and acceptability to the sponsoring system.

But there are limits to growth. It is not possible to expand an enterprise requiring mutuality and participation beyond workable levels. Although a quantified limit could not be set, most programs enjoying the sponsorship of traditional institutions agreed that the limits had been exceeded in their cases. The pressure for growth has been one common way in which large systems coopt liberatory programs and neutralize their power to engage in collective, transforming action, either by creating a bureaucracy in which critical consciousness is unlikely to develop or by pushing the demands of participation in governance beyond tolerable limits. So, increased enrollment is the name of the game. St. Mary's had set a five year timetable for growth. By its second year it had, as a condition for accepting a foundation-grant, increased its enrollment three times over its five year projection. It never regained the col-

lective fervor that had been generated in the first year. The Universidad had a slower start. It took the City Colleges six years before complaints were dropped about the costs far exceeding the income which the program generated. Of course, by then the City Colleges had also greatly reduced its own investment in the program. Now, with over eight hundred students—making the Universidad Popular the largest adult center in the City College system—the program enjoys a strained peace with its sponsor and has experienced great difficulty achieving its initial liberatory purposes. It is seriously proposing a reduction of enrollment to levels where the achievement of liberatory goals could again be possible.

A second research conclusion pointed to an even more critical factor in the success or failure of liberatory education. Successful programs are most likely to accompany historical struggles for change. Such struggles are the foundation for critical consciousness, the action toward which reflection bends and within which contradictions in the social order are perceived. Liberatory education differs from traditional education in this, that both are subsumed within radically different socio-cultural sets. The set served by traditional education is the technological and capitalist world of our experience, whereas the set served by liberatory models of learning is the fragmented network of organizations engaged in isolated and provisional action on behalf of a participatory and democratic social order. The proponents of this latter order more clearly perceive the oppression which they oppose than the freedom to which they aspire. They are a minority voice among workers, Blacks, Latinos, Indians, women, farmers, underdeveloped neighborhoods and towns—each with its own voice making its own contribution to an as yet unassembled collage, a vision being formed.

Within this unrealized network there is already much agreement. The basis of power is found in collective, rather than individual action. Collaborative modes are emphasized over competitive modes of organization. An active role is assumed in realtion to the production of culture and consumerism is rejected as both an insult and source of impoverishment. Increasingly, conflict is preferred to compromise, as members of disparate groups live out their alienation, rather than disguise it is self-destructive behavior. They are first doers of their words, and then talkers, valuing action over discussion and relating discussion to their need for reflection on what they have already begun to do. Sectarianism is avoided by submitting all action to critical reflection, through the development of consciousness, and through

consensual governance. These areas of agreement parallel the assumptions upon which liberatory education is based, those assumptions having represented not merely educational values, but the values assigned to the movement for the social transformation of which liberatory education is part.

Because of its incarnation within action, liberatory education is frequently not identified as education, but rather as the action towards which learning moves. For example, community organizations and unions might occasionally offer workshops, but most of the time learning occurs at meetings during which members reflect on situations and dialogically interpret their reality, while developing strategies for transforming it. As a result, much liberatory education does not occur in schools or in traditional educational institutions. When Eugene Debbs met with the workers at Pullman, when Saul Alinsky met with residents of Woodlawn, or when Myles Horton met with miners at Wilder, Tennessee, direct action to transform the social order had already begun. When learning occurred, it was in relation to that action. The content was action against the Pullman Company, the University of Chicago, or Fentress Coal; learning both clarified the struggle and provided a foundation for its continuance. Liberatory education thus began and ended in action. Action on behalf of change is both the source and the effect of liberatory learning. Traditional schooling serves to maintain the social order by isolating learning and action; whereas, the radical transcendence of traditional schooling begins with concrete liberatory acts which precipitate the breakdown of the old order. Liberatory action contradicts traditional schooling, negates it, and when successful ultimately renders it obsolete. The new pedagogy to which even seminal liberatory acts give birth heightens consciousness of the contradictions between the new and the old order and leads to further, more clearly defined strategies for action.

It is this commitment to action that is notably absent in programs which adapt themselves to traditional institutions and recruit participants from among those who accept society's judgement that the reason they haven't "made it" is that they haven't continued their schooling. This naive judgement becomes the participant's motivation for learning. Not only do these programs lack substantive content from which critical consciousness emerges, but they lack channels into which the transforming energies of a liberatory praxis can flow. Were critical consciousness developed in such programs, this consciousness could not long survive outside the program itself with neither purpose nor structure to sustain it. Liberatory programs that are established

independently of or without reference to specific strategies for social action will inevitably fail to be liberatory. Education cannot change the world without aligning itself with and subordinating itself to concrete and historical movements for change.

The radical nature of this latter conclusion is not to be minimized. When failure occurs in liberatory education, it too often is not because the program has been "done in" by the educational establishment—though this might well be true—, but at a deeper level because the program has greatly exaggerated the importance of education in the process of liberation and social change. Education causes neither to occur in the absence of political goals and means. The conflict between traditional institutions and liberatory education has, in fact, been used to disguise and ignor the inherent weakness of many liberatory programs. This astoundingly self-critical conclusion was the consensus of participants in the study!

Since the conclusion of the study its influence has been evident in the debate surrounding much of the internal planning and decision making both at St. Mary's and at the Universidad Popular. Decisions have been made, with consequences not yet fully determined. Even before the research was completed, St. Mary's refused to compromise with the Chancellor of the City Colleges on the right of students and staff to select and evaluate teachers and administrators in their own program. As a result the Chancellor terminated the program. St. Mary's has now reopened as a private adult high school with full accreditation of the North Central Association. The Universidad Popular has also resolved to sever its ties with the City Colleges in the near future. During the interim it is developing programs in immigration law, labor organization, community health and safety, and women's rights. These new programs are intended to augment and eventually supplant the now dominant English and high school equivalency curricula. This effort is coordinated with the activities of a dissident labor group, a feminist collective, an El Salvadorian solidarity committee, and other political activist organizations. Both programs have determined to act on the conclusion that survival of liberatory education within a traditional school is threatened to the extent that learners are empowered by their learning to change the world. According to our principle of double-congruity, the validity and historical significance of the research conclusions I have described are being measured in these decisions and their consequences.

While the two rabbits in our study might not have caught the fox, both, as you