



Human Science and the Human Image

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The social science tradition practiced in education rests on a belief in the transferability of natural science practices to the study of human life. This is an optimistic view which proceeds from the assumption that no human problem is immune to solution as long as natural science techniques are applied. Its corollary is that no solution is likely without scientific methods. This conviction has led to dogmatic training for educational researchers who are taught that there is only one set of appropriate techniques for problem analysis. Either it is done scientifically or it is done wrong, meaning without the certainty which scientific methods guarantee.

An assumption of this position is that natural and human events obey similar laws. In the natural world, laws are revealed by looking behind everyday events to find the fundamentals which govern reality. In the natural world of objects studied in physics, chemistry, and biology, an underlying reality is revealed by instruments which change the observer's perspective. Events are brought to light which the unaided eye cannot see, and experimental manipulations are performed which change naturally occurring interactions in order to isolate their causes. The results of these activities are theories which state in precise mathematical terms how underlying events relate to one another and to the reality they represent. From such activities come perspectives which give scientists a more comprehensive understanding than that of ordinary people. With this comprehension comes the ability to forecast and even to control. In a world where control of natural events often leads to economic and/or political gain, this understanding is one road to power and influence for scientists who become managers, or advisors to those who manage. The scientific expert, who comprehends the laws which are hidden behind ordinary events, has become an indispensable component of policy making in the modern corporation and state.

With such a record of success in the world of objects, it is not hard to understand why social scientists would want to appropriate natural science methods for their own subject matter. The transfer of this perspective to the study of human events has produced, by its application, an "objective" human image which can only be understood by scientific experts with the instruments to penetrate appearances. As with natural events, in human ones everyday reality is assumed to mask the causative laws which actually govern human interaction. To penetrate the screen of everyday life, testing instruments

are used, as are theories which give coherence to the picture revealed. This way of looking at occurrences presumes from the start that human actions are always caused by external events and, thus, that ordinary language and experience where choice seems possible, are illusory.

The application of the natural science perspective to education has produced a new image of children which is barely understood by teachers, parents, and administrators. In this "deeper" world of theoretical formulations separated from practical situations, exceptions do not exist. Children are said, in this world, to think according to the rules of sensory motor or preoperational thought, to be at oral or anal stages of psychosexual development, or to be preconventional in their moral understanding. Theories do not agree in their accounts, or even in what it is that must be accounted for. They agree only on the need to create scientific theories that provide coherent accounts.

In this separation of the practical vision from the scientific perspective, theory has elevated the scientists' view to supremacy and increased the uncertainty of practitioners about their understandings, which always seem to be partial, uncertain, and subjective. The result is that teachers and parents with years of experience are not considered experts, whereas researchers who have done a single "controlled" experiment may speak with authority. In this situation, it is better not to know children personally if you want to speak authoritatively about them. The distance imposed by theory, measurement, and method are not viewed as barriers to understanding; they are safeguards against bias.

The prestige attached to the natural science perspective is reinforced by the legal responsibility of teachers for their charges. If a teacher must justify actions taken, it is acceptable to do so by reference to a standardized test, but only with difficulty by reference to accumulated wisdom. In such a situation it is better to treat children according to some theoretically grounded recipe than run the risk that special attention will require justification.

The extraordinary influence of this natural science perspective as applied to education has led teachers, administrators, and parents to place extraordinary confidence in advice from scientific experts. The experts have a theoretically informed vision which sees beyond the vagaries of particular situations. Parents and teachers have the wrong perspective; they attend to detail and credit exception. The scientific vision disregards both.

The certainty introduced by natural science perspectives as represented in educational tests has enabled the competition between children, schools, districts, and even countries to grow; and with the

increased reliance on tests as a source of understanding, there has also grown an emphasis on training children at younger ages to meet the demands of tests. The desire to get ahead in the competition has been moved ahead to affect the way babies are treated by parents. The following incident, told to me by a colleague, may be untypical, but it is not uninformative.

A parent is with his preschooler at a playground. While the child tries to climb the jungle gym the parent follows with flash cards on which words are printed: "Look at this," he says as he pronounces the word printed. The child continues to pursue her interest in climbing.

Such activity does not spring spontaneously from the imagination of parents. It is advice they take from well-meaning scientists of children's cognitive development who counsel: The race does not belong to the swift unless he or she gets a head start. This belief in the ability of experts to predict what will be good for every child rests on the assumptions that children, because they are relatively powerless, are also without intentionality of their own, and that it is therefore up to adults to exercise control over them for their own good, even when it is clear that the children do not like what is happening to them. In this view, children are something to be shaped to measure. The corollary of this is that when a child "turns out" other than desired, blame must be assigned.

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I want to take issue with this situation and with the vision of natural science that has helped to bring it about. I believe we have created a misguided, narrow, unbalanced view of our children and ourselves by making naive inferences about the nature of natural science, and thus about how we should use science to consider human experience. Recent scholarship in the history and philosophy of science seems to make clear that what we call science is not a single movement. It actually several traditions whose common threads are difficult to identify.

It is not method:

There is no "scientific method"; there is no single procedure, or set of rules that underlies every piece of research and guarantees that it is "scientific" and therefore trustworthy. Every project, every theory, every procedure has to be judged on its own merits. (Feyerabend, 1978, p. 98)

It is not objectivity: "Complete objectivity as usually attributed to the exact sciences is a delusion and is in fact a false ideal" (Polanyi, 1958, p. 18).

It is neither precision nor certainty:

Both precision and certainty are false ideals. They are impossible to attain and therefore dangerously misleading if they are uncritically accepted as guides. *The quest for precision is analogous to the quest for certainty*, and both should be abandoned. (Popper, 1974, p. 24)

In the face of the diversity of traditions that make up science, it may be dangerous to try to capture an essential point of agreement as the guide to correcting the imbalance in our present vision. Nonetheless, in my own thinking, what scientific traditions share is the passionate desire to attain better understanding whatever the subject of interest. It is no methodological guide, but it does suggest an alternative path for those desirous of learning more about human experience.

It suggests we ought to guide our quest not with the methods of one scientific tradition, but rather by allowing the subject of our interest to serve as guide. No mathematician would impose a microscope on himself or herself simply because it was a powerful tool in chemistry. Neither should those concerned to understand human experience limit themselves to experiments or tests, because analogous procedures are sometimes found in the natural sciences.

If we are to achieve a balanced image of human experience, we had best begin by studying human experience. We might use as a guide the general question: What is human experience like? This is in itself too broad a question to be much help in directing a study. To get answers to that question, we have to begin by describing experience as it is found in concrete situations, or in other words, by describing experience as it appears to the people who are living it. To do this is to move toward the human science tradition and to leave methodological prescriptions behind.

For the human sciences, the quest begins in descriptions of lived events as told or observed, including the situations in which these experiences happen. By beginning in description the importance of language to experience becomes immediately apparent. Language and the meanings to which it gives expression are close to the heart of the matter.

The human science scrutiny of everyday experience leads to a change in perspective on ordinary happenings. What, in ordinary circumstances, is often overlooked as mundane becomes the focus of attention. The viewpoint of those we want to understand is brought forward and becomes important. We ask ourselves: What are the important events in this person's daily life? If we use the child's world

as an example, we find that playing, dreaming, imagining, and questioning are important activities. To understand the child's perspective, such activities call for our attention just because they are childlike. As children grow older and their horizons expand, the institutions of a society become part of their lived world and need to be described, as do the human relationships which are part of an institutionalized life.

In conducting human scientific study, the task of the investigator is to try to go to the heart of the matter by looking for themes that lie concealed in the unexamined events of everyday life. It may be surprising to some who have come to believe that the natural world is full of certainty and the human one uncertainty, to find that there are meaningful, shared themes in different people's descriptions of common experiences.

Since 1974 when I returned to the United States after my first visit to the University of Utrecht with Ton Beekman and his colleagues, a small group inspired by their example has been meeting in the School of Education at the University of Michigan to discuss research from a human science perspective. One of the topics we have discussed and studied is the play world of children. We have collected descriptions from ourselves and others, both in Ann Arbor and other parts of the United States, as well as Canada and Europe, of "A Favorite Play Place." It is striking how similar the themes are which appear in these different descriptions which span vast distances of both time and space. Before you read on, you might want to pause a moment to think back to your own childhood. Where did you like to play? Can you reconstruct some experiences you had there?

In the descriptions we have collected, the following themes recur:

A place where I am in charge—Children seem to seek a place of their own where they can do things that adults might prohibit. Often this place is out of direct sight of parents but usually it isn't too far away. Playgrounds are seldom, almost never, mentioned and little league experiences even less.

A place that challenges, that dares us—Children seem to like some danger, to enjoy a test of skill. They will climb a tree or go down a hole or jump down from somewhere.

A place where I can be alone—Some children like getting away from others. It is wonderful if this is a place where you can see without being seen.

A place where I can be with my friends—A contradiction with being alone. Children are in this way no different from the rest of us. Sometimes it is pleasant to be alone and sometimes it is better to be with friends.

Outside in the natural world where there are trees and water—Children seem to seek out trees and water for the adventure they offer, and possibly for the sensory stimulation they provide.

Nice sensory stimulation—A place that smells good and is warm and cozy. In favorite places to play it is usually warm and sunny. It is often summer. I don't recall anyone describing a favorite place that was cold.

Inside in a place where I can be alone, often in a basement or a closet, or even the attic—another contradiction which seems to be related to the circumstances of a life. Are there home situations that encourage outside or inside play? There probably are. It may have a lot to do with neighborhood, but it is far from a safe generalization that city children like indoor places and country children outdoor.

A place which invites a multitude of uses—A tree becomes a house, an airplane, a swing, or a lookout. A stream becomes the Amazon filled with crocodiles or a source of water to throw on people.

If we turn to these themes and ask what human image appears from this human scientific analysis, we see an actor who seeks out challenges in the world and who acts with intention to move away from the safety of home. We find a person who enjoys stimulating the senses by being outside and in the natural world of trees, streams, lakes, and oceans, but can also have pleasure at home alone. In play, children seek the opportunity to take charge, which manifests itself in their desire to move away from the interference of adults. In imagination they make up stories in which there is the chance for drama. In play, children create a meaningful world and move toward it as though they are willful actors in that world.

As with any portrait which tries to recreate the human image, there are exceptions and inconsistencies, but, nonetheless, it is remarkable how similar the themes are which appear in different people's descriptions of play and place. But the fact of these similarities is no justification in the human science tradition for claiming certainty or completeness. A description and analysis is not the end of the discussion; it is the start of a dialogue which can attract new participants and thus new viewpoints. The goal here is not the resolution of the issue once and for all; it is the opening of new possibilities through dialogue.

We can use this example of children's play places as a start in reflecting on our own attitudes and actions toward children and their play. To what extent do these themes speak of us and of the children we know? What do the children around us tell us about play by their words and games? What do these themes suggest about the places

we provide for children to play? Perhaps playgrounds which lack the basic ingredients of a successful play place should be changed? Note that by starting our study from the interests of children, we remain with those interests when we move to discussion of new possibilities.

We can expand the horizon of our discussion by asking whether these themes have become less important as we have grown older. Are these only a portrait of the young or do they speak about adult experience too? We might ask whether the desire to be part of a drama, to test oneself against a challenge, to try to take charge, and to dream of new possibilities is not still thematic in adulthood. If we can agree these are important themes for adults too, we need to ask next whether there is sufficient opportunity for adults to express these themes in their work and play. As with children, so with adults; we need to consider whether the environments provided for adult growth and development are sufficient to the themes we have uncovered. The human science viewpoint, in contrast to the hypothesis testing approach offered by the natural science perspective of social science, seeks to open doors to unforeseen possibilities, not to close them.

Disagreements between those who adopt the natural science vision to portray the human image and human scientists who see their obligations differently, can be seen in both the procedures and results of this example about children's play. In the human science vision, language is used to understand experience by a researcher who does not distance himself or herself from the process. There is no experiment and no test. There is also no certainty or necessity claimed for the result. In the human sciences the description and analysis offered are always subject to revision by anyone who can read and understand. Such revision should be welcomed because it creates dialogue about matters of importance to human experience. It is through dialogue that one comes to see experience through the eyes of the other and recognize original formulations that are one-sided and need recasting. Such dialogue, particularly if it includes parents and teachers, has the potential to empower practitioners, rather than to cut them out and off. In human science study, the goal of research is not the discovery of new elements, as in natural scientific study, but rather the heightening of awareness for experience which has been forgotten or overlooked. By heightening awareness and creating dialogue, it is hoped research can lead to better understanding of the way things appear to someone else and through that insight lead to improvements in practice. In this sense, human science is practical science.

At the moment, there is a struggle going on between researchers inspired by human science and natural science traditions. Those who want everyone to do natural science studies of human life have the upper hand in most university departments, and they often impose their views on students. They require that everyone take and use “research design and statistics.” Often there is no mention—if anyone even knows of its existence—of the human science tradition. This situation is most damaging in education where the single perspective has created a gulf between theory and practice and an imbalance in the influence of researchers and practitioners. In the long view, I believe human science perspectives will be recognized as necessary to a balanced image of human experience, but this is likely to happen slowly. In the meantime, it is important that teachers and parents not discard their convictions just because they disagree with “scientific” expertise. Teachers and parents are not without empirical evidence, and they need to ask themselves when they get expert advice whether the scientific descriptions accord with their own best understanding. The dogmatic vision of a natural-social science has led some investigators to propose “foolproof” educational treatments that deny children and teachers any initiative in teaching or learning. This sort of action, born out of conviction about the certainty of “scientific” understanding, leads away from dialogue and trust and toward the alienation of research from practice.

Human understanding of human experience is always in process. An adequate representation of the human image is never complete because it must include possibilities for the future. As these change, so do our understandings of history and ourselves. However, we can always get a better picture if we are willing to open ourselves to dialogue with the variety of traditions that treat human experience, including literary ones. As with the child at play who creates meaning and self at the same time, so we who try to understand human experience also contribute to its transformation. In this sense, human science can never be complete, objective, neutral, impartial, or dispassionate. If we restrict the allowable accounts of the human image, we also narrow our possibilities in the future. In this sense, we are not like the objects around us. We have the chance to become whatever we can envision for ourselves. A human image which forecloses on these new possibilities is neither accurate nor scientific. It is dangerously naïve.

References

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