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## 1. INTRODUCTION

In preparation for the writing of this essay X undertook a daunting task. I dug out many of the environmental psychology papers X have written over the last 25 years and looked at tbem to see what assumptions underlay those papers. The experience produced a real surprise.

The surprise came from the discovery of the range of topics, as varied as studies of reactions to working in open plan offices (Canter, 1972), furniture arrangements in Japanese apartments (Canter, X973), human behavior in fires (Canter, 1990), the design of hostels for the homeless (Moore, Canter, Stockley, & Drake, 1995), and the geographical activities of serial rapists (Canter & Larkin,1993a).There seems to me to be a style to, most studies, and to the account X gave of them, that remains remarkably unchanged from my earliest publication in the late 60 's in the Architects' Journal on "The Need for a theory of Function in Architecture" (Canter, 1971) to my most recent contribution, this year to a set of essays edited by Birgit Cold on "Hea1thAudBeauty: Enclosure and Structure" (Canter, 1999). Even my current dominant concerns with the actions of criminals have many similarities to earlier studies. All these studies explore how people make sense of their surroundings and act in relation to that understanding. They put the active person at the forefront and attempt to understand how the context of that person's actions provides a basis for conceptualizing their dealings with the world.

But more important than the similarity in the central theoretical perspective is the similarity in how those topics are tackled, the way I approach answering the questions they raise. That is the basis of the surprise. For me each of the publications was a distinct event. Often it was an account of a particular study that had been carried out in response to a distinct challenge or opportunity. These studies were never part of any predetermined program or previously specified environmental psychology model. Yet an approach emerges from them, a framework that is reflected in connected themes and a cumulative clarification of those themes and their relationship to each other. It is as if I was attempting to play jazz improvisations using different motifs, but each improvisation ended up sounding rather similar, although, the time does evolve and change,

What has been evolving throughout this quarter century of research is a certain type of psychological activity. One that I have called "investigative psychology" because it focuses on examining existing circumstances and naturally occurring patterns of activity in order to solve problems and provide insight. It is thus investigative in a number of senses, but most particularly in the sense that the problems that are tackled have an existence independently of any scientific interest in them. A perspective I first outlined in my inaugural lecture at Surrey University (Canter, 1985a).

They do not reach towards the sort of activity that is investigative in the meaning of "investigative journalism". Nor axe they as full-bloodedly "investigative" in the sense that Douglas (1976) advocates in his account of "Investigative Social Research". He sees the truth of social reality as only open to construction from the active participation o£ teams of people in the processes they are studying. The investigative psychology I am describing is rather more genteel than that. It uses rather more distant forms of contact with its subject mattes than the intense immersion in the setting that Douglas insists is so important. It is also different in focusing on the experience and conceptualizations of individuals and the conceptual systems they draw upon to guide their activities. It is much more influenced by the psychological perspective of George Kelly (1955) and his "alternative constructionism", than the field research approaches of Garfinkel (1967) and Goffman (1963) that are a major source of Douglas' methodology. In other words, my quest is to understand the processes

going on within individuals that helps to explain their actions in and on the world rather than social processes that are the product of such actions. As is obvious from my writings the other dominant influence beyond George Kelly was the social science methodologist Louis Guttman (Levy, 1996). He took the notion of alternative constructionism into fundamental questions of research process. He thus does share with Douglas the view that scientific truth is constructed rather than discovered, but he showed how research methodologies can assist that construction,

My studies, though, are certainly not solely academic. Some of them are "action research" in the sense that they are carried out with the objective of providing direct input to the decision processes of the people or organizations being studied. Some are even consultancy projects to provide direct guidance to a commissioning client. Others have been carried out with more general scientific objectives ia mind. What they all have its common, though, is a search for the meanings and psychological structures that characterize people in their daily situations.

## 2. AN UNFOLDING LOGIC

To get some understanding of the unfold4ng logic and therefore the assumptions, theories and methods that are characteristic of my work it will be helpful to have a brief resume of the studies in which I and my colleagues have been involved.

It started with an interest in the nature of aesthetic experience and a desire to study the reactions of artists to their own creative processes. I suppose this grew out of my own dallying with the arts (Canter, 1998) and the mixture of interest in the creative, subjective processes of drama and painting as well as the scientific processes. However, there are rarely opportunities to fund research of such a pure, arcane nature and so I had to compromise by joining a research team in a school of architecture which was looking at the psychological impact of buildings

This gave rise to a study of open-plan offices, which was formulated as a simple project to look at the effects on workers' performance of being in open-plan offices. The results from this study indicated the active role of people in selecting the sorts of places in which they were prepared to work. So what started as a study of the effects of the environment on people turned out to be a study of the way people influence the environments to which they will be exposed.

Therefore when the research unit I was part of moved on to look at school buildings, I was already primed to be concerned with the meaning that those buildings had for their users and the expectations and patterns of behavior that those meanings brought to play within those buildings. 'This framework proved most instructive and helped me to develop a rationale for looking at the sources of satisfaction people find in their surroundings. So when I was commissioned to study nurses satisfaction with the design of the hospital wards on which they worked it seemed natural to develop the earlier ideas. This enabled us to show that there was a structure to these satisfactions that may reflect generalised structures to the way we deal with our physical surroundings (Canter 8c Kenny, 1982a).

In trying to turn these findings into guidelines for design it became apparent, though, that there are many constraints on the ways in which buildings can be created. I discovered that perhaps one of the most underrated of these constraints is the fire regulations. These regulations are not derived from direct behavioural studies of people caught in a building on fire. To 611 this gap in behavioral studies I started to examine human actions in buildings on fire. This allowed me to give more emphasis to human; actions in buildings then had been possible in the earlier studies, which had focused on verbal accounts, usually questionnaire responses, to the physical environment. These case studies of actual experiences in buildings on fire showed me that even in the most trying circumstances, the actions of people are shaped by an attempt to understand what is going on and to achieve quite mundane objectives.

These predetermined aspects of peoples' reactions are shaped by the organizational context of which they are a part. These studies of fires therefore provided a natural stopping-stone to

considering the organizational framework that hinders or possibly facilitates accidents and emergencies. '].here followed a number of studies of industrial safety. In particular my colleagues and I explored the ways in which the attitudes of the workforce towards safety were reflected in their actions and consequent accidents (Canter & Olearnick, 1986). The success of that work in reducing accidents also served to illustrate the close interplay between peoples' characteristic ways of dealing with the world and their specific actions in possibly unusual circumstances. In other words, "accidents" can be seen to be a natural consequence of particular processes and patterns of ordinary "non-accidental", intentional, activity in a particular setting.

The relationship between prevailing modes of carrying out a job on a day-to-day oasis and industrial accidents turns out to be a useful model for other forms of unwanted, counter-productive activities, notably crimes. A fruitful hypothesis is that criminals also illustrate aspects of themselves and their typical ways of dealing with the world when they carry out illegal activities, whether it is arson, theft, murder, or any other crime. This hypothesis is the basis of inference about the features of unknown offenders and their life styles when they are not committing crimes, that may be derived from how they commit their offences, known as "profiling" (Canter, 1995), Interestingly it is their use of the area in which they live that turns out to offer some of the strongest inferences to link aspects of the crime and features of the criminal.

These studies of criminals are, of course, "investigative" in the strong sense that they contribute directly to police investigations But they draw on the same approaches and general psychological theories as earlier studies. They are addressed to problem solving in the same way as earlier studies. Therefore, with hindsight, I can now see that most of my earlier studies had an investigative perspective to them. The assumptions that underlay these earlier studies therefore seem to me to provide a general framework for an investigative environmental psychology

## 3. ASSUMPTION ONE-RESEARCHERS HAVE STYLES

The similarity of approaches to different sorts of research problems brings me to the conclusion that the most basic assumption I should admit to is that there is a style of working with which I am comfortable. Supervising many student projects over *the* years has also taught me that many research decisions are guided more by what a researcher is comfortable with than by any inviolate logic. Some people can only think in terms of standardized questionnaires, others open-ended interviews. Some find the world outside the controlled laboratory to be frightening and mystical. Others start their studies by talking to whomever they can and have their likely results formulated before they start collecting any reportable data. My assumption is that there are effective and ineffective ways of working within any style, not that there are right or wrong ways of doing research.

This can be taken as a pragmatic approach, or even one that is opportunistic in the positive sense of taking advantage of the opportunities provided. But it is also a way of providing a more "organic" approach to research questions, that somewhat tongue in cheek I called "holistic" (Canter, 1993b). This approach requires the methodology and results to be a natural part of the problem being studied rather than something that is artificially tacked on only to provide scientific credibility. It does demand a flexible approach to carrying out research, but one that makes sense to the researcher. It is out of this that a research "style" emerges.

The practical point here is that the advantage of having a "style" of research available is that for any question that is presented to the researcher she or he can bring to bear a way of answering that question. The researcher does not struggle to reconstruct the question according to basic principles or to fit it into some predetermined mould. Instead a strategy is brought into play that will produce useful results, To return. to our jazz analogy. The good improviser will. have a repertoire of techniques for developing the original tune. For some those techniques may, for example, be based upon traditional blues scales, for others the "problem" of elaborating on the melody may be tackled by drawing upon modal forms. The "blues" or "modal" approach will be at the heart of their "style" of improvising,

Within the environmental arena the significance of a research style is particularly pertinent because the origin of much of the research and its development is not entirely under the control

of the researcher. Opportunities or funds for research come from

organizations external to the researcher. To survive in this applied domain it is often essential to be able to make something worthwhile o£ what is an offer.

**3.1. Learning On the Street Where Research Comes From**

The origins of research projects are not often described in academic publications. As a consequence there are some parallels with the way sex was dealt with an Victorian times. Everyone knew it happened but they only found out how and when from private, personal experience. In a similar way we do not usually tell our students about where research comes from or the processes that give rise to its gestation and birth. We expect them to learnt about this on the streets.

Learned journals implicitly support *the myth* that research, and its findings, emerge full-grown from the scientist's loins with no intervention of either God or man. The apparently secret process by which studies are funded, research assistants found, data accessed, and a dozen other hurdles surmounted requires many management and financial skills. If *it* is field based and/or applied it also requires the support and cooperation of people outside of *the research team, as well as* direct support from a variety of individuals and organizations who are not necessarily experts in psychology, or scientific studies. Many of these people look to the research activity both to contribute to the growing knowledge and understanding of the science and to have direct benefits either in general policy or in relation to actions that will be carried out as a consequence.

Like jazz performers faced with a new tune, any researchers faced with the challenges of real world research have to draw upon a set of useful habits that will see them through. These habits have to be grounded in effective scientific procedures and ways of thinking. These habits are survival kits that help researchers to- cope with the complexities *of the* tasks that *face* theta. So, in summarizing here the assumptions underlying my studies I suggest that I am really elaborating a research style, not some grand, overarching theory:

**3.2. Styles Grow Out Of Classical and Romantic Research traditions**

I suggest that just as the major movements in the arts are reflections of classical or romantic traditions so are the styles of scientific activity. The **Classical approach is** to see everything as a reflection of pure Platonic forms. Beauty is merely a mirror of some ideal that can never be reached. The serenity of Apollo versus the spontaneity of Dionysius. In the history of architecture this gave rise to an analogous but rather different distinction between the romance of form and classical perspective that emphasizes the purity of function. Interestingly, architectural psychology enlarged at a stage at which architects were trying to meld form into fashion, claiming there should be no distinction between the two. However, with the demise of *the Modern Movement* and Intemagonal style, forts has emerged again as an entity that has validity independently of function.

In the research tradition the classical is one in which an ideal structure is defined into which the perfect study should fit. From this perspective the everyday is seen as a reflection of pure, ideal forms, whether it be a statue of Venus or carefully crafted factorial designed experiment. The research tradition that imposes a predetermined scientific structure on how studies should be conducted can be seen as classical in many senses of the word.

By contrast, research that sees the everyday as inherently exquisite, which recognizes the need to shape approaches in order to study problems in their own light, can be seen as inherently romantic. This may result in a series of controlled experiments each examining a different aspect of the central research question, or as ever more focused exploratory studies investigating a range of perspectives on the problem at the end. Indeed, recently Schneider (1998) has given a rallying call for Romanticism as a basis for a revival in psychology at large.

Most art drifts between the romantic and the classical and I think the same is true for styles of scientific research. Perhaps that dual pull also characterizes much of my activities. An attempt to impose structure in the traditions of the Platonic ideal, whilst battling with the need to

recognize the richness and complexity of daily life, with all the fascination that that complexity carries. Inevitably scientists lean towards the classical because of the requirements of formality in science. Those that are uncomfortable with this formality may therefore reveal their romantic tendencies through their modes of data. collection or the theories they espouse. Yet it has always seemed to me a pity that these two traditions are so often at war with each other. They are complimentary in human thought and together enrich human experience. My own work is inspired by the romantic interest in everyday experience and its rich and enjoyable complexity. But my studies are often shaped by the more classical scientific traditions within which X was educated. So for me speculation is not a comfortable starting point. Theories, as important as they are, are usually the end result of a project not its driving force.

ASSUMPTION TWO--DATA SPEAKS THEORIES

There is an important second assumption that emerges from the investigative perspective and the productive tension between classical and romantic traditions. This is that data is not *enough.* Collecting information, for example, on the preferences that people have for one environment compared to another, or giving an account of what people do in one place or another, or recording the number of times a particular location is used, as useful as these pieces of information may be for planning and decision malting, they do not add up to an understanding until some explanatory framework is tested against them We need to know if our observations of activities reveal important aspects of how people typically deal with those settings. We treed to see how the preferences expressed enable us to understand the basis of human delight and evaluation.

From their earliest writings environmental psychologists have grappled with these theoretical concerns, separating the discipline off from some of their more descriptive forbears, such as regional geography, architectural history, or urban sociology. We now have a wealth of theoretical formulations to draw upon. From Lynch's writings on the legibility of cities (cf. Banerjee & Southworth,1990), Altmaa's (1975) proposals of the centrality of privacy in structuring our transactions with our surroundings through to more recent considerations on the evolutionary mechanisms that drive landscape preferences that the Kaplaus have promoted (Kaplan & Kaplan, 1989). 1 have always assumed that I could make at least some small contribution to this greater understanding. So, my publications have grappled with concepts, models and processes rather than being buried in very extensive data sets or highly complex analyses. I have never believed that all that is needed is good data and that the rest of the scientific process will look after itself.

This is not to say that I see myself as part of that tradition, which regards data as a subservient adjunct to grand theory , dipping into the archives to illustrate points. Quite the reverse, I always have assumed that the data will speak to me and help me to understand the transactions that people have with their surroundings. This is probably more of an act of faith than an assumption. But it was my Ph.D. work that taught me that possibility. I could not make sense of the field experiment findings I had from testing people in large open offices and smaller ones. The effects were there whet I tested people in their own offices but they disappeared when I moved ***them*** to other offices for testing (Canter, 1972). I was struggling to find an effect of the environment on the respondents but it was the results that made me realize that people were choosing their environments and that was what produced the differences.

# 1. ASSUMPTION THREE THEORIES ARE PRACTICAL

However, this interest in building theories (using "building" as a verb and an adjective) should not be taken to imp merely academic concerns. Most of the studies I have carried out have grown out of practical problems, from the earliest studies of office design to recent work on the contribution ***research laboratories make to*** industrial innovation.

In more recent years I have tried to explain this search for effective theories as part of

practical studies by pointing o t the distinction I see between engineering and science. Engineering is concerned with making things work & Science is concerned with understanding how and why things work the way they do. The move from a scientific finding to an engineering application not inevitable. It requires special development work. Furthermore, there may be engineering discoveries that defy scientific explanation. However, the scientific principles have much further reach and potential over a longer time scale than engineering ?? oven" But for me the interest in those theories is their, eventual applicability. S me theories and approaches to theory building have more potential for application an others. My work aspires to develop just such applicable theories. Therefore, my own studies have usually walked the tight rope between theory construction and practical application. This has broadened the range of institutions that have been prepared to support my activities and in the process has widened the range of influences that have been brought to bear on the studies themselves. This may matte the variety of studies look as ' they are a magpie collection with no apparent focus. However, it is worth bearing i mind that many of the questions I have sought to answer have been raised by the .lading agency before I had any contact with it Indeed, I ***have*** never found it possible to find an organization that would fund a piece of research on the basis of a presentation **from** a researcher if that organization has act already identified the problem one with which they need help.
Organizations tend to seek help from people whom they regard as having some special skills to offer. They determine these skills, in the main, on the basis of the previous research of the individual or to concerned. It, therefore, follows that although the path may not be immediately obvious, applied research will tend to follow a **sequence** in which studies **follow** each **other** in a progression that at least seems logical to the funding bodies. This can be contrasted with theoretical research in which funds can be applied for on the basis of a new idea of what the researcher wants to explore.
Although they may be evaluated on their previous successes, when the **decision is made**

as to whether to award the grant they are likely to have more freedom in arguing their case than somebody who is being evaluated by a commercial organization that wants to be sure it will get results it can use. It must be mentioned, though, that all over the world there is a drift away from funding "blue sky" academic research towards funding more "mission oriented" research.

**3.1. 'Theories Should Explain Actions and Experience**

The actual substance of the theories that I have attempted to draw from the data in the practical contexts in which I have operated are derived in part from the particular attraction that Environment and Behavior studies have for me. The attraction has never been as a branch of ergonomics, or human factors. Rather, it has been the ways in which studies have allowed an exploration of the basis of delight as well as comfort. More grandiosely, the field explores both those realms that deal with what makes life feasible-protection from the environment, appropriate spaces for action and the like-as well as those matters that wake life worth while. This latter is often captured under the heading of aesthetics.
In the early days of the study of people and their physical surroundings the field was called Architectural Psychology (Canter, 1970). This enshrined the recognition that there was a determination to connect with the design of buildings and to carry out studies that would help to shape our physical surroundings. Yet ever since those early days there has been a general drift in the field away from a concern with the shaping of designed environments for human benefit. The drift has been towards a focus on human reactions to, and actions on, the physical surroundings, especially in recent years to how people may be degrading those surroundings. It therefore seems to *me that* at the heart of environment and behavior studies there is a central conundrum of how to take account of and model the physical surroundings in ways that will capture the qualities of pleasure, and delight as well as issues of function and comfort. It also therefore follows that the underlying assumptions that run through the studies in which I have been engaged are assumptions that grapple with this central difficulty of exploring a physical reality whilst dealing with people's inner emotions.
A second consequence of the perspective I have outlined is that because it requires integrated

contact **with** everyday existence as a prerequisite of effective research, it is also naturally relevant to the lives of people other than psychologists. This makes it fundamentally applicable. It *may* seem strange to see application as a consequence of the theoretical emphasis of the work. Perhaps this is one of the paradoxes of modern psychology? Some of the most exciting developments in theory have come from very direct concern with practical issues.

Of course, the happy consequence of this paradox is that support for research can be found in many locations other than academic institutions. The serious environment and behavior researcher does not stand on ceremony or need to be concerned because
he or she is asked to help solve an existing problem, However, applied research does pose special problems of communication. There is a difference between communicating to an academic audience and communicating to people who wish to act on the consequences of those deliberations. This in turn does have consequences for the ways in which the research is carried out. Such **constraints may** be fruitful in suggesting areas of research, but they are certainly not harmful if they lead researchers to think more clearly about how they are going to communicate the results of their studies.

## 6. ASSumption FOUR-CONTEXT PROVIDES MEANING

One principle that is a starting point for interpreting the results of many studies is that a person's actions derive their significance from their context. The caresses of a lover are very different in *their significance from the* lewd fingerings of a rapist, even, though the physical behavior itself is identical in both cases. The satisfactions one person feels with his place of work or home may be quite different from somebody else's satisfaction with very similar conditions. Thus, the context that gives significance to our lives is a function both o£ variations between people and of variations in the set***tings and how*** they interact.

This is so fundamental a theoretical assumption that it almost acts as an axiom in my thinking. It is based oa the view that our lives are provided with excitement and challenge, or desperation and despair from the transactions between the particular qualities that we bring to a place and the particular qualities of that place. Of course other people in those settings and their actions are often the most significant part of the setting. (I will develop this "social assumption" a little later.) But the point is that the context has a place in space and time that provides the basis for its significance and relevance to the person experiencing it. That person also brines his or her position in social space and time to bear on that interpretation.

A. very personal realization of that occurred to me recently when I underwent a minor surgical procedure under a local anaesthetic. Being totally aware of the operating theatre, in what was a potentially threatening and **certainly disturbing context,** made
***race*** acutely aware of the faded floor tiles that I noticed as I climbed onto the operating table and the banal music that was being played in the background. They raised small doubts in my mind about the professionalism of those who were about to operate on me and raised my anxiety. Yet as an environmental psychologist I was aware and also relieved to notice that the surgeon was completely oblivious to these matters as he focused on preparing the tools of his trade.

The powerful significance of the transactions between person and context raise very special problems for any one who would like to understand the processes involved more thoroughly. The fact that generations of psychologists have chosen to ignore the importance of context only serves to illustrate how demanding a challenge it presents.

### 6.1- Laboratories are Artificial

Taking account of the natural settings in which human experience takes ***place poses*** great demands on both theory and methodology. The problem is that human ***beings*** are remarkably adaptable. Indeed environmental adaptability is the primary tool in human evolutionary development. But for psychologists it is a capability fraught with dangers as well as delights. People ***will*** develop ways of dealing with any setting no matter how artificial. As a consequence the cunning inventions of experimental, laboratory-based psychologists may often

bring to the surface skills and propensities which are either non-existent in any other situation. *They* may at best be superficial or minor capabilities that have no strong function outside of the rarefied milieu of the controlled experiment.

It is helpful to elaborate a little further on this, devilish invention which I have called the "Laboratory Experiment". For me it is a situation that is characterized by a large number of artificial constraints. Artificial in the sense that the constraints are devised by psychologists for the purposes of studying problems that are of interest within the realms of psychology, but not necessarily of any significance to anybody else. Constraints in tine sense that attempts are made in advance to limit as fax as possible all except a very few aspects of the environment that the research participant will experience. These are constraints that limit even more severely the range of responses that the participant will be allowed to generate and that will be measured during the course of the study.

The strength of these controlled experimental studies, it is claimed, is that they allow very clear conclusions to be drawn about the effects that particular aspects of the environment have on particular reactions of the respondent. But this, of course, is precisely their most profound weakness too. ***They make*** it extremely difficult to explore and understand how people give shape and meaning to their surroundings and act on / it in order to improve their control and subsequent satisfactions. In other words, it is not so much the experimental, scientific precision that makes me uncomfortable with these experiments, but the constipated and restricted models of human beings, their actions and experiences, which are a product of the methods that are used for studying them.

A further problem with the whole concept of the experiment is the way in which it provides a mode of thinking about research that is carried through, unchallenged, into other areas. ***Field*** experiments, and the whole vocabulary of "quasi-experimental" design, appear to me to drag inappropriate models into the study of real world phenomena. It seems to me much more appropriate to think of these as quasi-naturalistic studies.

I suppose I have always been most impressed by that stream of psychology that can trace origins in modern times to William James (1890) and in classical times to Aristotle' , This is the view that human beings are best considered in an analogy to Newton's laws of motion. Mat is, they are naturally in motion unless acted upon ***in some*** way to distort and modify that dynamic. Thus, any framework that looks to a person being triggered, or stimulated to act in a particular way has ignored the basic principle that people already bring with them. to the situation far more ***than*** they take away. So, besides the methodological implications of this dynamic perspective on human beings, there are also theoretical elaborations that are a natural consequence.

If people are actively in search of control of their surroundings and their satisfactions come from their transactions with ***their*** context, then it is reasonable to assume that much of significance to them is available to their conscious awareness. This does not necessarily ***mean*** that they will always be aware of the implications and consequences of their actions, but it does accord well with the strong cognitive traditions in psychology and their recognition that even emotional responses are shaped by knowledge and understanding. This certainly means that much of what people say is as valid and necessary to study as what they do and that the two processes of thinking and action cannot be regarded as anything other than reflections of the sauce system of experience.

This perspective has the further interesting consequence of changing the emphasis with which simulated stimuli are considered. The conventional wisdom among psychologists is that pictures of ***scenes,*** or indeed people, can be treated as some sort of surrogate for the actual experience of the place or person. My view is that these, representations elicit a particular perspective on the experience, a sort of Brechtian alienation, by which the representation is treated primarily as a symbol rather than as a multi-modular reflection of real experience (ci; Scott & Canter, 1997).

In other contexts Orne (1962) has drawn attention to what he calls the "demand characteristics" of any study. He chose this term to describe the pattern of expectations and

implied actions that are built into any laboratory study. But I think this is a more general phenomenon and indeed a fundamental aspect of the way in which we cope with the demands and complexities of daily life. This means that only a sub-set of the possible aspects of experience will be captured in reactions to simulated representations, 'This view assumes that there is a rich, and possibly continually expanding, repertoire of conceptualizations and associated aspects of experience that can be drawn upon in various ways for particular objectives. Being presented with a photograph and asked for a response to it, elicits a **sub-set of that** broader range of aspects that are present if the experience is a direct one. Of course, if people are only given the opportunity of expressing a limited, alienated sub-set of the repertoire available, then of course great similarities will be found between the simulation and the actual experience.

**6.2. Social is Fundamental**

I have sketched out a framework for understanding human actions and experience as drawing upon particular aspects of a cognitively available repertoire that is conceived of as being relevant to the purposes that are salient in any given context. But this is still a strangely heartless model in which repertoires are processed as if in some non-human vacuum. I take it as axiomatic that the purposes and repertoires are defined through contacts with other people. Social processes are thus not superficial additions to fundamental human processes, later chapters in the textbooks of the psyche, but rather they are the fundamental constituents of our world that underlay all purpose and meaning. This is revealed by the fact that the repertoires and purposes draw very directly on contacts with other people and achievements in relation to them. Power and intimacy are dominant purposes for example which are fundamentally social (c£ McAdams,1988, for a detailed exploration of this).

'Ibis theoretical framework seems to me always to have been present in my work, but like the Eskimo carver who is trying to let the fish escape from the stone my experience of psychological research has been to enable these ideas to have some freedom from the morass of possibilities. Indeed, this attempt to ***summarize my assumptions is*** yet a further stage in *the* struggle to give shape to ideas ***about the ways*** in which ***people*** experience the world

**6.3. Purpose Explains**

Perhaps an important concept that crept into this attempt to explicate the repertoires of experience is the idea that the repertoires are drawn upon for different purpose& "Purpose" is probably one of the most difficult of notions for psychologists ever
to manage, even though it is one of the most readily acceptable ideas in the realms of daily life. Indeed, the legal system is based upon the notion of intention and its relationship to the purpose that the individual had, in mind when carrying out an action. Psychologists have always been worried about the logical problem inherent in suggesting that the future, or what follows an action, could somehow be the cause of it. However, this confusion comes about because they have ignored the wonderful quotation from Karl Marx that the difference between the lowliest architects and the most sophisticated that the former creates a notion of the building in their consciousness before they act on it. So these mental representations of the possibilities are clearly aspects of human action that must be taken into account if ***those actions are to*** be understood.

In the evaluations of buildings in which I have been involved the focus on purpose has proven especially helpful (Canter, 7.983). A building cannot be evaluated in the abstract. It has to be evaluated in relation to the uses to which its occupants and owners wish to put it. This implies that a building can be good for some uses and not for others. A fairly elementary point, but one also totally ignored in the budding evaluation literature. Most examinations of buildings take a rather Classical perspective seeking an abstract definition of its qualities. Whereas, my approach is more Romantic in the sense of recognizing the here and now ??of the place for its current uses, but also predicting that the purposes will drift as time and usage produces changes.

## 7. ASSUMPTION FIVE STRUCTURES EXPLAIN

The search for the meaning of people's transactions with their surroundings as they experience it in relation to their reasons for being in those locations presents a fairly complex set of

interrelated faces. The research task is to distil the many variables that are possibly relevant into he dominant themes that help to explain the processes under study. This is a task that can be accomplished in many different **ways,** but the one that appeals to me most is one that allows the data to reveal its underlying structure whilst imposing the constraints on that interpretation process.
The crucial idea here is that the meanings that ***people*** assign to their actions or that organize their utterances can be established by seeing how those utterances or actions co-occur. It is the patterns of co-occurences that reveal the underlying meanings of what people say and what people do.

### 7.1. Means are External, Correlations Internal

Here is an important and often rarely understood consequence of the search for meaning in patterns of relationships at questions the fundamental psychological relevance of experimental designs. The laboratory framework is construed as the testing of average differences between groups that experience the treatment condition and those that experience the control condition. The fundamental assumption is made that the participants in the experiment do not interact with the process of experimentation as such?. The treatment and controlconditions can be regarded as externally impaled by the researcher. They are assumed o be ***independent variables.***
The major statistical analysis of this type of research design is to form some summary of the reactions of each of the subgroups in each of the experimental conditions. These sub-group are summarised, in effect, by calculating their average response, whether on rating scales or frequencies of behavior. These averages are thus the overall ***response of a group to*** the externally structured constraints provided by the experimenter. It follows that it is extremely difficult to understand the meanings that any given individual brings to a situation by comparing the average responses of sub-groups.
By contrast the correlation actually reveals the patterns of co-variance within individuals summarized as general trends across individuals. So if you know there is a correlation between satisfaction with the heating in a room and its lighting you know that the person who likes the heating also likes the lighting and the person who does not does not.

### 7.2. Research Processes Interacts with Their Products

This brief consideration of the psychological differences between measures of central tendency and measures of association makes clear that research processes carry direct and profound implications for the sorts of psychological theory that can reasonably be constructed. *The way a study is* designed and the sort of data that is collected assume something of the qualities of the people being examined. If a theory is going to be about the active interpretations and purpose oriented actions that, people bring to their environmental transactions then the study has to explore processes within *the person.* These will essentially grow out of correlations between aspects of what each participant in the study says or does.

### 7.3. Meaning Emerges out of Structure

The pattern of co-occurrences, associations, and correlations, gives rise to the meanings of what people say or do. For instance, in a study I conducted of prison inmates evaluations of the design of the prisons in which they were incarcerated, it became very clear that the significance of the cell design depended on the regime of the prison (Canter, Ambrose, Brown, Comber, & Hirsch,1980). The patterns of correlations showed that in prisons that had severe regimes that restricted the movement of prisoners the size and comfort of the cell was crucial to overall satisfaction, in more liberal regimes it was only part of the general pattern. .As with many field studies, with hindsight this seems -an obvious discovery, but at that stage it was rare for prison architects to consider the ways in which the organization interacts with the design to produce consequences for users.
The methodologies we use for revealing these patterns impose the minimum set of assumptions on the data (explained in detail in Canter, 1985b). Therefore they are honest in representing the underlying material. But the researcher still has to make sense of what the

methodology summarizes. This is where the constructive, inventive process of research is recognized.

8. ASSUMPTION SIX—EXPERIENCE IS A CONSTRUCT NOT A GIVEN

The notion of an underlying structure to the experience of the surroundings may give the misleading impression that the framework I operate within is searching for a Classical, Platonic ideal. A search for a pure structure that characterizes reactions to particular places. However, consideration of the purposive orientation and the social dynamic that give significance to places makes it clear that there will be many different ways of describing the experience of a given transaction with the surroundings. In this regard the account that is given of environmental experience has to be seen as a construction that will vary depending on whom is constructing it.

This perspective has especially important practical implications It helps to explain the inevitable conflicts between the different parties to the building, shaping, managing, and use of places. It thus provides a strong theoretical basis for participative design, not on political grounds but because psychologically that is a productive way to incorporate different perspectives on the experience of places.

**8.1. Actions Require Interpretation**

The recognition that we are constructing accounts of experience when we are studying them also raises questions about how we approach human actions in places. Central to these questions is the assumption that *fn* action does not inevitably carry the meaning that an observer may naively assign to it. The structural assumption comes to our aid in helping us determining the meaning of actions. The production of patterns of actions due to their regular co-occurrence help in their interpretation. So if one restaurant is typically used by groups of people but another by loners we can glean more of the meanings that these eating places have for their users. Or, more graphically, our findings that the types of actions that occur in rape of a stranger when the offence is committed indoors are rather different from when it is committed outdoors, helps us to understand the perspective and characteristics of serial rapists who consistently offend in one type of location or the other (Canter, 1995).

**8.2. Actions Provide Meaning**

-Me processes I have described create a cycle of meaning. The patterns of activity help to give meaning to places that in turn encourage or facilitate similar actions. Out of this process emerges a culturally based structure of place meanings. People draw on this portfolio to give shape to their own aspirations and purposes

**8.3. Preferences Reflect Meaning**

One further important consequence of these assumptions is that preferences for particular places are a product of the interrelationships between the meanings and actions that people associate with those places. It may well be possible to capture some of the general qualities that are typical of such places by using the sort of cognitive, evolutionary arguments that Kaplan and Kaplan (1989) have articulated. But the framework of assumptions I have outlined here proposes that the actual cognitive process that people draw upon to form **then** preferences owe more to current social and cultural patterns of place experience than to innate propensities.

**9. ASSUMPTION SEVEN-ALL METHODOLOGIES ASSUME BUT SOME ASSUME MORE THAN OTMRS**

To the casual reader it is the methodology that is the most obvious distinguishing feature of my research. The use of Multi-Dimensional Scaling Techniques (MDS) and the interpretation of mull-variate analyses as conceptual structures (Canter, 1982b). 'These methodologies have been in use for well over 40 years but still appear novel to many psychologists and social scientists. I think this is partly because even applied field researchers are still wedded to experimental models and ways of thinking. They still look back to fashion their research designs on laboratory chemistry as practiced in Victorian times rather than, say, modern astronomy or even archaeology, or, within the social Framework, areas of system analysis and structural modeling,

The contructivist approach requires a methodology which is rich in many different ways.

What people say and what people do as well as the traces that they leave behind and the records that are collected about their actions must all be drawn upon to provide grit for the psychologist's mill. But this multiplicity of multivariate data sources demands modes of analysis that will not destroy the systems and context that we are trying to study. Even at the risk. of clarifying the apparently obvious rather than elaborating the remote and arcane, I have to be confident that what we are finding does reflect a fruitful account of what actually occurs rather than merely playing obeisance to some scientific ritual. As is apparent from many of my publications, I have found the facet approach (Canter, 1985) to research to be the most satisfying way of maintaining scientific rigor without falling into the trap of scientific rhetoric

This leads to the important assumption that research methodologies, including how the research is organized and the data collected, make fundamental assumptions about the nature of human beings. This is perhaps the most challenging paradox for any psychological research. What we are able to find out about people depends on the way we approach how we will find that out. This self-reflective quality is perhaps The most important assumption of all my work.

R E F E R E N C E S