

Crime Prevention Through Environmental
Design: Some Topics for Evaluation

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INTRODUCTION

Judith Wilks (1967), in a review of the treatment of crime by human ecologists of the past two centuries, identifies three types of effort:

1. Studies mapping the differential distribution of crime across geographic space. E.g., rural-urban differences, regional differences, intracity differences, etc.
2. Studies searching for environmental correlates of these differential distributions. E.g., distance from the CBD, housing quality, rate of population turnover, poverty, etc.
3. Studies testing hypotheses framed to explain these differential distributions. E.g., the "subcultures of violence" hypothesis.

Wilks suggests that ideally there would be some kind of a progression from simple mapping to theory-building, testing, and refinement. She also points out that this has not been the case with human ecology, and cites a number of reasons why this is not so having to do with (a) incommensurate data sources, (b) circularities in definitions and reasoning, (c) mistaking factors for variables, (d) mistaking correlations for explanations, and (e) a sort of curve-fitting of data onto currently popular theories. Michelson (1970), in examining social ecology in America, finds that it -- in contrast to biological ecology and ethology -- has always shown a strong tendency to lose its connection to the environment or habitat.

This paper will examine crime prevention through environmental design (CPTED) in the light of some of the issues posed by Wilks and Michelson, most especially on the search for hypotheses to explain the descriptive and correlational data. I have approached this task in the most low-level manner imaginable: I simply examined the CPTED publications on my shelf for explicit or implicit statements of relationships, and then considered possible relevant social science literatures which might be useful in framing hypotheses for closer examination.

The paper closes with a brief discussion of what may be some useful indicators and data sources for CPTED researchers and evaluators.

SOME CURRENT CPTED ISSUES

CPTED theory and strategies make certain assumptions about the environmentally-competent individual; i.e., that users of environments, when given options which enable them to reduce their exposure to the risk of victimization, will recognize these options and will make rational decisions in the service of risk-minimization. Examples would be adequate lighting, elimination of blind turns and lurking places, providing views of elevators from the street, etc. However, the assumption of active reality-oriented coping is not always supported by e.g., the work

on behavior in hazardous environments; denial and fatalism appear to be part of the picture. The operant psychology literature on stimulus control raises the question of how individuals undergo the discrimination learning which must occur if they are to distinguish safe from hazardous situations; Some of the cognitive mapping literature might be useful in understanding what in fact is being discriminated. And we may find that the decision theorists have modelled some of this for us; for example, stimulus generalization amounting almost to phobia may be a minimax strategy carried to extremes. In short, what behavioral alterations occur in crime-prone environments, and what cognitive and affective processes underly them?

CPTED theory also makes heavy use of the notion of surveillance; i.e., that if people receive information about a crime or suspicious event in progress, they will act on that information by rendering assistance, challenging, summoning help, and/or acting as witnesses. The fashionable thing to do at this point is to mention Kitty Genovese, so I won't. What has troubled me though with all those windows on the countyyard is the spectre of the blinds being drawn for privacy or energy-conservation, the occupants watching T.V. instead, etc. In any event, the surveillance notion pops up in CPTED theory and strategies more than any other, which makes it worrisome that research cited by e.g., Latane' and Darley (1970), Milgram (1970), and others, does not seem to be supportive, at least in some important cases. We need to know more about the environmental conditions under which human beings will be their brother's keepers so that we can arrange these conditions more often.

Another major area of CPTED theory concerns the notion that safety will be increased if the number of interacting humans falls within some optimal range. Sometimes this range is low (e.g., number of people sharing an entry or a corridor), sometimes high (e.g., number of people on the street at night). Various theorists have searched for the optimal size of human groups, though neither the anthropological nor the ethological literatures provide anything conclusive on this point. On the other hand, studies of size effects in factories, offices, small groups, and over-manned behavior settings (Barker & Gump, 1964) may provide some useful insights as to how many people should live on the same floor, etc. Field studies would also be appropriate here, and in fact Oscar Newman is conducting some for us now.

Another basic CPTED notion is territoriality, a construct we use much more freely than do the ethologists who originally described it. That human individuals and groups will assume prerogatives over space is not in question, but the processes involved are probably much more cognitive and experiential than "instinctive," at least if the parent ethological literature is any guide. What environmental attributes and dimensions influence the formulation and maintenance of formal and informal social networks which exercise some degree of control over what occurs in their domain? For example, Barker's (1968) behavior setting theory suggests that settings assume jurisdiction over space through the interplay of environment, tradition, group dynamics, and role theory; Barker and his

associates, like the human ecologists before them, have told us much more about the social than the physical variables in the equation, however. The literature on neighboring or propinquity effects may suggest physical layouts that support exercise of control, though social class and life-cycle stage are special considerations here. Architectural evaluations of new towns and subdivisions in Europe and America may also be useful sources of field data. Lastly, we may have a valuable experiment of nature in the many rental apartments being converted into condominiums; to what extent does legal ownership of public space affect efforts to control its use?

A related issue concerns the assumed effects of territorial markers and displays on the behavior of trespassers and would-be offenders. The treatment is reminiscent of the ethologist's sign stimuli, releasers, and fixed action patterns in its implication of innate responses to environmental or social stimuli. Perhaps some modest support for this view might be drawn from the work of Eibl-Eibesfeldt (1975) and Eckman and Friesen (1975) on trans-cultural responses to human facial displays; this work suggests an unlearned component in human responses to e.g., smiles. In the case of territoriality, however, with infrahumans and presumably with humans, markers and displays are so frequently paired with an attacking defender that one need postulate little that is "wired in" to the intruder to explain his responses. Thus if humans do respond to territorial markers and displays, the best place to look for explanations would be in their reinforcement histories, with a view to improving safety through a unified program of environmental design and contingency management, rather than relying solely on the former.

Another area of CPTED theory deals with the effects of land-use mixtures and vehicular circulation. This is an area which appears to be fraught with inconsistencies. Non-residential uses (e.g., shops) in residential areas are said by some to increase safety by increasing sidewalk traffic and surveillance, and by others to increase risk by bringing in outsiders, providing teenager hangouts, etc. Street-closings are advocated because through traffic is said to increase risk, yet other CPTED strategies clearly are based on the assumption that the presence of vehicular traffic can contribute to pedestrian safety. It may be that these apparent inconsistencies reflect different aspects of the geography of offender operations; if so the work of e.g., Reppetto (1974), Scarr (1972), and Turner (1968) might provide useful points of entry. On the other hand, it may be that what we have are not inconsistencies but alternative methods for attaining the same goal, in which case the decision can be made on non-crime related criteria. What is most probable, however, is that what is involved is an interaction of a number of variables, and reflects a reality which is much more complex than current CPTED formulations.

In closing this part of the discussion, I would like to list some areas that CPTED has not addressed specifically to date. One is the developmental aspects of environments; human ecology for the last 150 years has grappled with the question of what it is about certain environments which

leads some -- but not all -- children growing up in them into delinquency. So far the quest has not been productive and CPTED may fare no better; the decision to stay away from the topic ought, however, to be made consciously and defended convincingly. On another topic, CPTED has focussed on a rather narrow range of the continuum of environmental scales. At the lower end, we have not examined environmental determinants of crime-related behavior in room-sized environments; rooms, their furnishings, and their use, can affect such things as cooperation vs. aggression, opportunities for privacy and withdrawal, etc., all with possible implications for criminal behavior. Temperature, noise, overcrowding, and other forms of hyperstimulation might also be mentioned. At the opposite end of the scale, we have heard little about e.g., "crime prevention through metropolitan planning and analysis" except perhaps for the work on offender travel and displacement mentioned earlier. This is a striking omission since intrametropolitan analysis was the primary emphasis of the Chicago School of human ecology and much of the work that has followed it.

Notice that almost all that I've said so far describes CPTED in terms of its effects on the citizen, but the implicit assumption of most of these strategies is that they work because of their effect on offenders. Offenders are assumed in one case not to yield to temptation because it has been removed, and in the other case not to make the attempt because the apparent risks are too high. What do real-life offenders respond to in the environment; how do they use the environment in going about their business? We have limited research on this topic, it is not conclusive, and it is not easy to conduct. In addition to offenders, the police are also involved. How do they respond to things like street-closings? What would happen if they became part of the Building Department or the Zoning Board, as has been suggested? More generally, are CPTED strategies which are good for the citizen also good for the police, and are they bad for the offender? How well does it all hang together? We are now preparing to conduct research on just this question and hope to be obtaining some definitive answers.

An area that CPTED research needs to confront more directly concerns the types of dependent measures and research methods that are to be employed for the testing of hypotheses once formulated. CPTED theory makes assertions about fine grain environment-behavior interactions, but few examples of these interactions have ever been observed and documented. This is a problem that human ecology has also had difficulty with. Cost, obstrusiveness, and practicality are some of the issues that must be faced, and all are complicated by the fact that the criminal act itself is infrequent and generally covert. Moreover, there are those who say that it is not so much crime which is disrupting the society, but the fear of crime, which is often all out of proportion to the actual risk; the implication is that crime is a quasi-random event whose occurrence we can little affect, and that fear-reduction is what should receive our attention. To the extent that there is any truth to this view, we may be in a situation in which the environment imperfectly explains crime, which imperfectly explains fear, which imperfectly explains behavior. It is very unlikely that the picture will prove to be quite so clouded, once we can identify the behaviors of interest, and -- through some judicious combination of research methodologies -- the environmental aspects which influence those behaviors.

One final area meriting at least a passing look is futures research. On the near-term planners are able to model and forecast with reasonable accuracy such things as future metropolitan land use patterns, vehicular trips, and commercial sales; can we do the same with crime patterns? Some police crime analysis units today do this in a modest way; would additional effort be productive? On a related topic, Downs' (n.d.) model of neighborhood decline and abandonment might prove to have predictive power and suggest where extra policing and community renewal effort might be most productive. Also on the near-term, the possibility of pre-construction evaluation of environments for safety might be considered; can we specify and pretest the key relevant dimensions, elements, and behaviors? Peering farther into the future, one has a nagging fear that CPTED defenses may prove to be a sort of Maginot Line which future criminals will easily pass over or through. Can we examine projections for the economy, demographics, technological change, social policies, housing, and the experience of other nations, combining this information in ways which might suggest which of our current CPTED strategies are most vulnerable to obsolescence and what new problem areas may emerge? How well will present CPTED strategies hold up, and what new ones are we likely to require?

SOME ADDITIONAL DATA SOURCES FOR EVALUATORS

This section will mention very briefly indicators which may have been overlooked by those charged with the evaluation of CPTED demonstrations and programs. The Downs' indicators of neighborhood decline were mentioned earlier; many of these could equally well be used as indicators of turn-around and would be available cheaply and currently from city building, tax collection, and social services departments, as well as from realtors' associations. His "confidence" dimension might be assessed rather inexpensively by local market-research organizations. Another interesting set of indicators is the sort of household travel pattern information gathered in transportation studies, Chapin's (1974) closely-related household activity pattern surveys, and some of the indicators used in quality-of-life surveys; some of these efforts have a long enough history so that reliability and cost considerations are fairly well advanced.

One last source is police data. The obvious caveat here is that the patrolman or detective at a crime scene is looking to apprehend and convict individuals, not environments. He will often be too busy dealing with frightened victims and recalcitrant witnesses to get the sort of information that might be useful for the design and evaluation of CPTED interventions. However, some departments with heavier emphasis on prevention and/or on crime analysis may be collecting information on e.g., offender M-O, detailed analysis of the setting, and other situational attributes which if it is recorded and stored in a form that allows ease of retrieval, may provide a valuable adjunct to other data sources used by the evaluator. Together with those mentioned above, and those treated more thoroughly by Bickman and Brill in this volume, the evaluator should be able to identify some that meet his particular requirements.

CONFERENCES

Barker, R. Ecological Psychology. Stanford: Stanford University Press, 1968.

Barker, R. and Gump, P. Big School, Small School. Stanford: Stanford University Press, 1964.

Chapin, F. Human Activity Patterns in the City. New York: Wiley Interscience, 1974.

Downs, A. HUD Experimental Program for Preserving Declining Neighborhoods: An Analysis of the Abandonment Process. San Francisco: Public Affairs Counseling Division of Real Estate Research Corporation, no date.

Eibl-Eibesfeldt, I. Ethology: The Biology of Behavior. New York: Holt, Rinehart, and Winston, 1975.

Ekman, P. and Friesen, W. Unmasking the Face. Englewood Cliffs, New Jersey: Prentice-Hall, 1975.

Latane, B. and Darley, J. The Unresponsive Bystander. New York: Meredith, 1970.

Michelson, W. Man and His Urban Environment. Reading, Massachusetts: Addison-Wesley, 1970.

Milgram, S. The Experience of Living in Cities. Science, 1970, 167, 1461-1468.

Repetto, T. Residential Crime. Cambridge, Massachusetts: Ballinger, 1974.

Scarr, H. Patterns of Burglary. Washington, D. C.: U. S. Government Printing Office, 1973.

Turner, S. The Ecology of Delinquency in Sellin, T. and Wolfgang, M. (eds.), Delinquency: Selected Studies. New York: Wiley, 1968.

Wilks, J. Ecological Correlates of Crime and Delinquency. In the President's Commission on Law Enforcement and the Administration of Justice Task Force Report: Crime and its Impact -- An Assessment. Washington, D. C.: U.S. Government Printing Office, 1967.



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