matter of how easily they can enter a sensory interlock.

THEORETICAL IMPLICATIONS

Three conclusions can be drawn from this study. Firstly, it appears that the whole issue of situational and ecological effects on the way people perceive and manage their states of copresence and on the way they make use of and define the space surrounding them has not yet received sufficient experimental attention. The majority of existing studies on personal space size and such a space's invasion/defense sequences have been conducted so far in terms of the identity and other characteristics of participants (Sommer, 1969; Evans and Howard, 1973; Hayduk, 1978). It seems that the effects of situation definition and of the physical layout of the setting need to be more fully considered.

Secondly, our study casts a new light on the phenomenon of such a personal space as well as on the phenomenon of the spatial configuration in social encounters. Thus, it needs to be noted that the observed minor differences in the physical size of the personal space bubbles and ellipses displayed by various groups of subjects under experimental conditions (cf. Horowitz et al, 1964; Pedersen and Heaston, 1972; Newman and Pollack, 1973) may be more important than previously considered. From the results of this exploratory study, the shift in the objective space by a couple of inches or centimeters towards or away from a given person is found to be exponentially amplified in terms of the perception of the established space by such a shift degree of interpersonal proximity.

Thirdly, it seems that the whole notion of personal space which is conceived presently as a digital or an "all-or-none" phenomenon should be revised. We would be tempted to suggest that all spatial fields in which people perceive other human beings as being proximate at at least 1% level should be treated as subject's large personal space field within which subsequent distinctions between personal space levels or zones equal to 10, 20, 30 and so forth degrees of proximity could be made. The present-day notion of the personal space bubble
would, in such a model, represent the innermost nucleus of the onion-like structured spatial personal space field which, if entered, causes the inevitable withdrawal and defensive reactions of the person who set it up. How such a revised model would fit into a larger picture of human spatial, communicational and territorial behaviour is an important problem which clearly deserves an exhaustive and obviously separate treatment.

REFERENCES

- Argyle, M. Bodily Communication. London: Methuen and Co., 1975.
- Ball, D.W. The definition of the situation: Some theoretical and methodological con-

- sequenses of taking W.I. Thomas seriously. In J.D. Douglas (ed.), *Existential Sociology*. New York: Appleton-Century-Crofts, 1971.
- Baum, A. and Epstein, Y.M. (eds.). Human Response to Crowding. Hillsdale, N.J.: Lawrence Erlbaum, 1978.
- Ciolek, T.M. Zones of Co-Presence in Face-to-Face Interaction: Some Observational Data. 57 pp. Paper read at the 2nd Congress of International Association for Semiotic Studies, University of Vienna, July 1979.
- Deutsch, R.D. Spatial Structurings in Everyday Face-to-Face Behavior: A Neurocybernetic Model. Orangeburg, N.Y.: Association for the Study of Man-Environment Relations, 1977.
- Edney, J.J. Human territoriality. *Psychological Bulletin*, 81:959-975, 1974.
- Evans, G.W. and Howard, R.B. Personal space. Psychological Bulletin, 80:534-544, 1973.
- Gilinski, A.S. Perceived size and distance in visual space. Psychological Review, 58: 460-482, 1951.
- Goffman, E. Behavior in Public Places: Notes on the Social Organization of Gatherings. New York: The Free Press, 1963
- Goffman, E. Relations in Public: Microstudies of the Public Order. Hardmondsworth: Penguin Books, 1971.
- Gould, P. and White, R. *Mental Maps*. Hardmondsworth: Penguin Books, 1974.
- Hall, E.T. *The Silent Language*. New York: Doubleday, 1959.
- Hall, E.T. A system for notation of proxemic behavior. American Anthropologist, 65: 1003-1026, 1963.
- Horowitz, M.J. et al. Personal space and the body-buffer zone. *Archives of General Psychiatry*, 11:651-656, 1964.
- Kendon, A. The role of visible behaviour in the organization of social interaction. In M. Von Cranach and I. Vine (eds.), Social Communication and Movement: Studies of Interaction in Man and Chimpanzee. London and New York: Academic Press, 1973.
- Kunnapas, T.M. Scales for subjective distance. Scandinavian Journal of Psychology, 1: 187-192, 1960.
- Lee, T. Psychology and the Environment. London: Methuen, 1976.
- Lett, E.E. et al. A Propositional Inventory of Research on Interpersonal Distance. Bethesda, Md.: Naval Medicine Research Institute, 1969.