

FULL-SCALE IN ANOTHER SENSE

By Kresten Bjerg

My point of departure is a long standing interest in close human communication. I have been much interested in the multiplicities of communicative levels between persons sharing daily life, e.g. spouses in a household.

In the mid-sixties I was working with the first videotapings of marital dyads in a laboratory setting. The "interplay-analysis" which I developed at that time, however, was hampered by the lack of contextual naturalism in the setting.

Since - working in the field of "altered states of consciousness" - I came to question the adequacy of studies of extra-ordinary states, in view of the lacking methodology for dealing even with the ranges of the variable ordinary states of mind over the 24-hour cycle in everyday life, and their potential relation to the micro-structure of the habitual ongoing activities of members of a household.

I decided to devote myself to the much slighted subject : homelife-psychology or "domestic psychology" and thus to bring into focus the ecology of habitat.

I had succeeded in having an experimental apartment included in the design for new university-buildings, to which our laboratory was moved in 1974. This flat, 55 squaremeters, however, only had 1 living room, diminutive kitchen and bath and a corridor, and, what has later been remedied, a very complicated access from the street.

My primary aim was " to develop convenient means of representation of the process of dwelling "

It took several years to have the flat equipped with basic means for a continuous 24 hour registration : 6 wide-angled wall-mounted videocameras, sequential shifting and time-lapse videotape, microphones, stationary and portable audiotaping etc.

The crucial development however was that of reaching a concept of "no external monitoring" : The tools of registration would have to be served by the inhabitants themselves, with no intrusion on their privacy, and they

would have to be free to censor out whatever materials they saw as "too sensitive".

The tasks of condensing and transforming material to a manageable form would be considerable, and would have to be performed by us, - especially as it would include also physiological recordings, starting with heart-rate.

I wanted to develop a new type of educational material, which could be studied at several levels and for several purposes.

Its subject should be the urban 2-wage-earner flat dwelling family with minor children.

The idea was, after an expansion of the apartment, to have a number of such households, living in the close vicinity, to transpose their daily life - for a period of perhaps 14 days - to this flat, being helped to bring quite a part of their belongings.

The material should illustrate the actual uses of space and include at least ample sampling of actual verbal exchanges. It would have to be submitted to some kind of anonymization, in order not to expose the participating families to untoward consequences of their participation.

Meanwhile, stuck with the limitations of the apartment, I made experiments with the method, using myself and my then 4-year old youngest daughter.

From one session of 4 continuous days with integrated recordings, I selected one 24-hour period, which was used to produce full transcriptions of speech, movements and heart-rate.

Using a furnished 1:10 scale model of the apartment small flexible dolls were moved around, in strict accordance with the videotapings from each room - and sampled sound was added, to produce a condensed doll movie of the entire period, as seen from a fixed vantage-point from above the flat.

The need for an annotation, to make it more obvious to the onlooker what was taking place, was quite obvious. The problem was solved but inadequately, by having the videotape trigger 2 parallel slide-series, showing graphical icons, developed to symbolize the major units of action.

Technical means of inserting icons, physiological curves and further annotations, textual or graphic, directly into the videotape proved highly desirable, but outside our reach.

At this time, however - about 1980 - the development of computers had gained such momentum, that a radical shift of paradigm could take place.

It no longer seemed improbable that households - within a few decades - would have home computers, videotape-machines and digital mass-storage of pictures, texts and sound, i.e. potential means of producing - by themselves and for their own benefit - versatile representations of their own life in their own dwelling.

Where the potential of computers as yet had been seen

purely as a desirable means of research, especially for handling graphical function-icons relative to a floor-plan of the habitat over time, - i.e. as a means of scientific analysis, - this potential turned into an object of research.

1983 I succeeded in launching a - modestly financed - project in "humanistic technology assessment of information technology for the home", setting up the beginnings of a "domestic information manipulation system" in the experimental apartment. It was based upon an Apple 2E home computer with hard disk etc., a colour TV and videotape, - in addition to the previous equipment.

A pilot study was run, and has been reported (Bjerg,1986) but the funding did not include a computer scientist, so the system development did not reach a level suited for live-in experiments. As for a continuation it was concluded by the National Council of Technology that this kind of assessment had to be seen as a constructive endeavour, and that adequate funding was beyond the limited resources allocated for technology assessment, and could only be raised under conditions of established cooperation with private industry.

It took quite a time to solve this problem, but an agreement of collaboration is now being established between our laboratory and 3 large companies in a joint venture "to develop an open concept of a user-oriented integration of all future information technology in the home". The project is concerned with the development of a so called Home-Information-Network, closely related to international concepts of The Interactive Home, tied up again with developments of future Integrated Service and Data Network, served presumably through telephone lines.

The HIN-concept, integrating TV, AV, Home automation and Telephone equipment is mostly developed in various smart-house and home-of-the-future projects with little regard for genuine consumer interests, seemingly staging the instrumentation for future economic exploitation, arranging homes primarily as terminals for reception of expensive services, and catering to paranoids and security-addicts for all kinds of safety-services.

Although the danish HIN-venture undoubtedly will duplicate much of this, it is characterized by a particular emphasis on user-interface and iterative prototyping.

Much aware of the dubious desirability of these developments I have reasoned along the lines: "If you can't beat them, join them". I see the establishment, through this cooperation, of a total-environment-prototype of these devices in our experimental flat (expanded for this purpose to include a small sleeping-room and a small child-room) as a potential for channelizing some genuine consumer interests and some realistic real-world-demands into the design process.

Much of the rationale from previous phases will be

carried along. Especially that of "developing convenient means of representation of the process of dwelling", - only that what is to be represented now explicitly includes the various uses of informational media throughout the 24- hours and the week-cycle.

The involvement of households from the vicinity is also part of the new plan, only more easily motivated. Also, of course, the stress on having no external monitoring to threaten the privacy of households.

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Although slightly besides the point of the full-scale method, I shall briefly make a few comments on the inevitable question concerning the general development of this technology : Will not private intimate homelife suffer irrevocably from this intended informatization of the home ?

Our involvement should at least make it possible to qualify such questioning.

I shall in no way try to minimize the overwhelming dangers already inherent in the multitude of available TV- and radio-channels, videotapes for rent, telephone-services, data-base access, home-computer-networks and interactive video coming up. But the major danger in all of this, I submit, is the extent, to which all knowledge here is structured from the outside.

It is not so much the amount of information becoming available, which constitutes a threat, as it is the corresponding lack of power on the consumer side to handle all of this in personal, qualified ways, - having in general no other choice than gulping it down or closing it out.

Computers are still seen as means of handling abstract, formalized information. Their potential for handling TV- and videopictures, photos and drawings, texts and music, even biometric and climatic information, through very simple operations, are still unacknowledged.

Yet they may be germane to the establishment of a necessary "information-power" in the lay consumer household, a type of decentralized counter-power, based also upon the almost infinite "digital shelf-space" soon becoming available in new cheap mass-storage devices.

The home-multi-media-machine, integrating easy handling of voluminous text, picture and sound will, according to our concept, use the image of the home territory (the graphic representation of the actual interior of the particular, furnished and inhabited dwelling) as the primary level of its graphic interface.

Storing and retrieval of all personally relevant information will in this way preferably build into structures concordant with the individual household-members' own experiential life-spaces and biographies, relative to the lay-out of the concrete time-geography of the particular household.

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The experimental flat, with the HIN/DIMS total-environment prototype is in a way a full-scale laboratory, although it does not permit essential modification of its basic architectural lay-out.

It is open for permutations of interior architecture, but its main advantages for experimental purposes lies in

a) its functionality for real-life simulation in a quasi-naturalistic design with a relatively high degree of ecological validity

b) its easy access to user-administered process documentation and

c) its potential for iterative technical prototyping of, in principle, all kinds of home-technology for swift accumulation of several "generations" of users experience, with successive product modifications.

Our hope is, of course, that we shall succeed in developing new powerful formats for representation of the process of dwelling.

Although they may come to play a role as means of specialized research in psychology, micro-sociology and architecture, and as pedagogical tools, the fundamental aim on my part is that of preparing for a "volkswagen"-domestic multimedia, which will empower future households to master their own orientation, organize the knowledge available in terms relevant to themselves, and to gain powers of personal expression corresponding to the needs of a full fledged informed democracy.

References :

Bjerg, K : Experimentel systemudvikling af informationsteknologi til privathjem. Psykologisk Forskningsrapport, 6, Psykologisk Laboratorium, 1986.