Chapter 6

Change makers

Rethinking the productive workplace through an art and design lens

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Introduction

Making the workplace more productive is most commonly addressed from a technical perspective. We typically place our faith in science, technology, engineering and mathematics to create the offices in which we think we can work most effectively. Ans{ we do it for a reason - a logical, rational approach yields the metrics and data on which design decisions can be justified to others. Nobody would deny that reasonable air quality, proper illumination or efficient spatial organisation - all factors whi8i'i impact on productivity - depend to a considerable extent on competent scientific calculation. But this rigid technocratic approach often misses a vital point: the human beings who work in offices aren't nearly as rational and logical as the data on which their workplaces are constructed. In fact, they often behave in ways that defy the logic of technical systems altogether.

In the rush to develop standards and metrics around every aspect of the workplace, we tend to overlook those factors which cannot be so easily quantified in a neat table of data. Often denigrated as 'soft' factors (as opposed to the hard stuff that the real workplace scientists and engineers grapple with daily), these nevertheless play right to the core of the human condition in their exploration of such things as behaviour, experience or well-being. And they impact significantly on productivity despite the ambiguity or fuzziness that surrounds them. Take lighting as an example: most building codes specify a quantity of light but fail to note *quality* of light, its aesthetic effect, its impact on moo d and ultimately on how people work.

Designers and artists operate in this more ambiguous terrain more comfortably than engineers or scientists; they are trained to handle ambiguity better and their expertise lends itself more easily to experimental and experiential thinking around the workplace. Furthermore, the practical emphasis in design on ethnographic research, sketching, making and prototyping is a bonus when it comes to fitting people to workspace. At least that was the belief when I set up a research lab for workplace futures in the Helen Hamlyn Centre of Design at the

Royal College of Art in 1999. This chapter is an experiment in itself - an attempt to rethink Key aspects of the productive workplace through an art and design lens, by retracing my steps through a series of the projects that revealed new ideas and insights about how people really want to work.

Over more than 15 years, under my direction, the Helen Hamlyn Centre of Design conducted more than 40 collaborative projects with industry partners in the workplace field,

as leading major research studies funded by the UK Research Councils. What I discovered from analysis of this body of practice-based research were both the strengths and

weaknesses of our approach. From an art and design perspective, we certainly reached those that that other disciplines couldn't reach in terms of understanding and measuring human

interaction and experience at work; however, the qualitative outputs that resulted from our creative enquiry sometimes struggled to convince decision-makers in business, for whom the small datasets and specific contexts (a by-product of the design-led approach) were less than compelling.

Four areas emerged from my analysis of the Helen Hamlyn Centre of Design portfolio as essential contributions of design research to the productive workplace. The ability to influence behaviour, enhance experience, explore sensation and affect well-being are not exclusive to an art and design approach, but these are core themes on which design researchers can hang their hat, and for which their skills and aptitudes are especially well suited.

Influencing behaviour

When we started the Helen Hamlyn Centre of Design in 1999 , two big themes were on the millennial horizon. The first was the rise of home working, which briefly threatened a rethink of office property strategy; the second was the rise of open plan working, as the walls came tumbling down in offices. Both trends involved significant behavioural change. Could a design- led research approach identify and influence behaviours? Our first public event as a research centre in 1999 was called Work At Home, a symposium on home working preceded by an ethnographic study of home workers (Myerson, 1999). This study identified four models based on the ' borders ' that people construct to protect and enable work within the home. Two were successful models of working at home; two were unsuccessful.

The first we called the Contained Work model, where the borders constructed around work are solid, allowing little that doesn't belong to pass in or out, and clearly defining the parameters of work within the home. Spatial borders are marked; temporal borders are defined; time plans and schedules are adhered to. Psychologically, the distinction between home and work is clear in the worker's mind . Sitting at the opposite end of an axis in terms of the degree of separation of work from home was the Permeable Work model. Here the borders are constructed to allow a planned integration of work and home activities and easy two-directional access. Work is often not confined to the workspace; domestic and work activities are intertwine d or run in parallel.

The other two models demonstrated conditions where borders were not successfully con- structed or maintained. In the Overflowing Work model, work has burst its banks and flooded the home. The work is not contained by spatial or temporal borders, it cannot be shut or folded away, the worker is constantly investing more and more time in the work and neglecting other basic functions of home life. Its counterpart is the Imploding Work model where resources are drained or channelled away from work, and less and less work is achieved. Workspace shrinks - psychologically and practically; plans disintegrate; motivation and discipline weaken in the face of competing demands and constant interruptions and diversions (visitors, babies, builders, depression).

These four models were fleshed out with scenarios, sketch designs and prototypes to show how border s might be erected and maintained between work and home. A follow-on stud y by Yuko Tsurumaru (2 000) collaborated with the National Group on Homeworking and the Design Council to observe six households around the UK and prototype low-tech products - from workstools to tabletop organisers - that would aid certain types of industrial homeworking, such as electronic assembly or sewing. By working backwards from behavioural insights derived from interviews, observations and design interventions, we developed a whole new way to look at the subject of home working. The idea of 'borders' became a governing design principle that influenced behaviours in the home.

Open plan working challenged design research in different ways. The chief problem identified here was a lack of privacy perceived by office workers whose walls were removed. A study called Head Space by Tim Parsons (Parson, 2001) looked at ways to create greater psychological privacy for people in large open plan offices, using a range of artefacts on and around the desk as research tools to encourage new social rituals at work. A research rationale was developed that directed the project towards the provision of greater psychological privacy over the erecting of purely physical boundaries (booths, cabins, caves, screened-off areas, and so on).

Through a series of observations in bustling media offices, Parsons discovered that territorial and physical elements to aid concentration and privacy tend to be ineffective and irrelevant if the mind is unsettled and unfocused on the job in hand. He created a series of cultural experiments to give people greater psychological privacy without the need to create private enclaves or even give workers any more personal space. Prototypes were placed in a range of offices for testing. One object was an 'Umbrella Chair', which featured an umbrella in the backrest that could be opened to provide an acoustic shield and act as a sign saying 'do not disturb me' (Figure 6.1). Another positioned a 'desk post box' on the edge of a worker's personal domain to avoid mail and document deliveries from colleagues interrupting the flow of concentration.

Figure 6.1 The Umbrella Chair designed by Tim Parsons as a cultural probe to test psychological privacy in open plan space (200 l)

Some interventions were more successful than others, but the use of creative probes and artefacts to map and guide user behaviour in the workplace represented a novel addition to the research landscape. As the knowledge economy gathered pace, subsequent Helen Hamlyn Centre for Design projects extended the design research repertoire in the behavioural arena. In Space for Thought (Greene and Myerson, 2009), researcher Catherine Greene used a novel drawing exercise as part of a series of interviews with 20 knowledge workers in order to understand their different workspace needs. In each interview a simple graphic research tool was introduced to engage participants in thinking about how they used the office building. Each participant was presented with a grey box on a piece of paper, the box representing the office building, and they were invited to describe their mobility in relation to the office by drawing their movements in and around the box. This drawing technique proved effective in encouraging participants to describe their working patterns and habits in ways that would be hard to capture in words.

The study identified four key typologies of knowledge worker (Figure 6.2). Each of these typologies interacts with the office in a different way: the 'Anchor ' is desk-based, almost always in one spot; the 'Connector' moves around within the building; the 'Gatherer' makes journeys away from the office but always returns; and the ' Navigator' is rarely in the office at all, working for the organisation at arm's length. What we learnt was that for the Anchor, comfort remains the most important issue; for the Connector, more adaptable types of furniture are needed; the Gatherer wants more choice and control of his or her environment; and the Navigator requires a more welcoming alternative to the standard hot-desk provided on the occasions they visit the building.

Similar design methods were used when the research team was commissioned by Johnson Controls to find new ways for companies to better support employees in making more sustain- able choices at work. The Sustainable Cultures study (2012) held interviews and workshops in three multinational companies from three different industry sectors (consumer goods, financial services and real estate) (Crumbleholme *et al.,* 2014). From the outset, it was clear that people
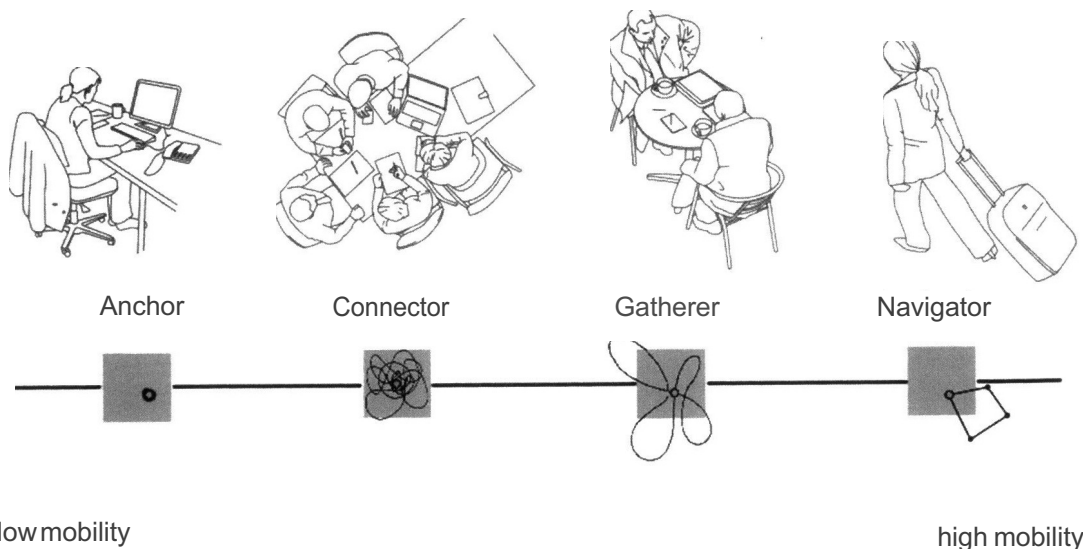

| Anchor | Connector | Gatherer | Navigator |

low mobility   high mobility

Figure 6.2 Four typologies of knowledge worker created by Catherine Greene, Space for Thought

Sourc e: Greene and Myerson (2009).

had a wide variety of views on what sustainability in the workplace should mean. These were based on people's perceptions of the various costs and benefits to both company and employee of being sustainable.

The research team identified four different workplace behaviours towards sustainability. The Housekeeper culture puts the responsibility of sustainability on the employee without the company bearing any costs itself - its attitude is 'waste not, want not' to cut down on the use of resources. The Pragmatist believes that sustainability should not entail any cost to the employee or the company - its motto is 'it has to work for everyone'. The Libertarian believes sustain- ability is the responsibility of the company and not employees - its message is 'free will should prevail'. The fourth cultural model, the Campaigner, advocates that both the company and employees should shoulder the burden - 'we all need to take urgent action'.

This framework of four cultures was developed into an online toolkit for company managers responsible for sustainability, facilities and communications. The toolkit presents examples of how different initiatives - for example, saving energy - might be tailored to Pragmatist, House- keeper, Libertarian and Campaigner cultures, providing practical guidelines on how to roll out a campaign to change behaviour at work.

Enhancing experience

As well as mapping behaviour at work, our exploration of the productive workplace from an art and design angle looked closely at experience. In recent times, it has become more apparent that the single-minded pursuit of management efficiency in modern office design has tended to overlook the importance of individual psychological comfort at work. As a result, many workplace environments are designed as psychologically impoverished 'lean' spaces, which do nothing to enhance the company culture. When more psychologically enriched settings are attempted, these are often highly customised and expensive one-offs that are difficult to build and replicate.

In a project called Living Stages (Privett and Jarvis, 2013), architect and researcher Imogen Privett looked at how theatre design could provide an inexpensive blueprint to create more expressive and effective office environments for people, using a simple 'kit of parts' approach. Drawing on the idea of 'maximum effect through minimal means', the project began with archival research into the pioneers of Modernist stage design, among them Edward Gordon Craig and Adolphe Appia. A set of six scenographic techniques used to create mood and atmosphere was identified, based on the application of light and shadow, projection, screens, levels, colour and vista. These fundamental techniques were then developed into a 'vocabulary' of effects that could be adapted to the office environment to investigate how we might be able to create emotional landscapes at work to respond to people's psychological needs (Figure 6.3).

The project described a modular set of stage componentry akin to systems furniture, designed to enhance certain cultures of performance at work by changing mood, ambience and layout in any given setting. Through the study we came to a key way of thinking about the workplace as a combination of *process* and *experience* - what we do and how we feel. Much workplace design tends to focus on one at the expense of the other. Some offices, for example, support working processes and practices efficiently but fail to create a positive, welcoming experience; others generate a great ambience or look visually arresting but are incoherent in terms of enabling
work process.

We were interested in having the best of both worlds, and Privett followed up her workspace project on learning from theatre design with a study looking at how the design of certain types of urban public space might have lessons for designing better group experiences at work. Living
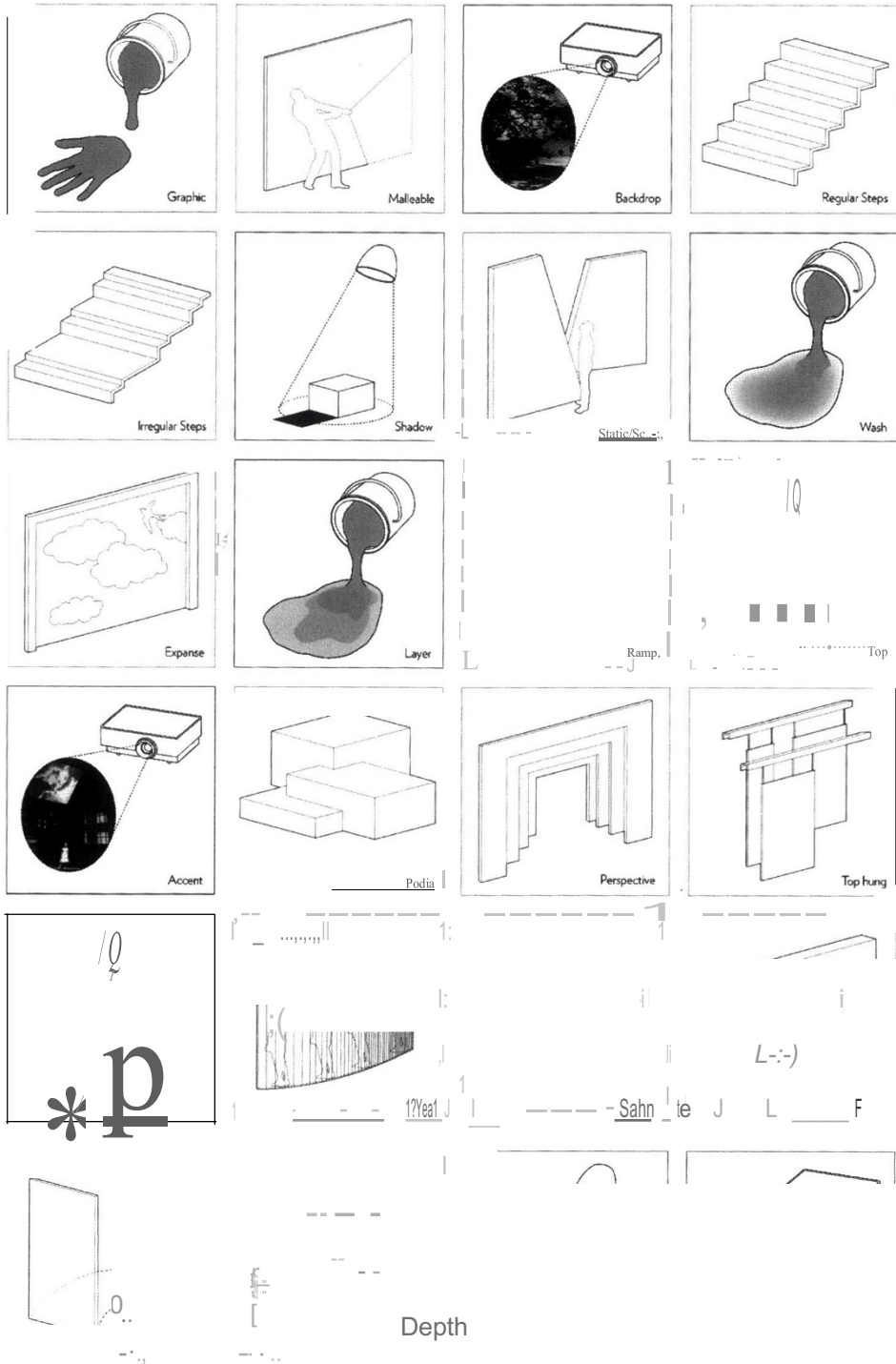
Graphic · Malleable · Backdrop · Regular Steps · Irregular Steps · Shadow · Static/Sc... · Wash · Expanse · Layer · Ramp, · Top · Accent · Podia · Perspective · Top hung · Depth

Figure 6.3 Vocabulary of stage techniques adapted for use in office design by Imogen Privett , Living Stages Source : Privett and Jarvis (2013).

Cities (Privett, 2013) investigated how adaptable and imaginative temporary urban events, such as markets, festivals or pop-ups might inform the development of a more agile and flexible office landscape. The study articulated a series of key design elements to enhance social inter- action and communication at work. Its formula for improving collective experiences became part of a book (Myerson and Privett, 2014) that analysed the whole issue of balance between experience and process in the workplace.

Living Cities was not our only foray into the city realm to look for ways to improve the human experience of the workplace. In Workscapes (Koslowski, 2012), architectural researcher Benjamin Koslowski created a design framework based on four urban planning principles to show how workspace could be reprogrammed to be more socially dynamic and interactive by addressing programmable surfaces, circulation, large objects and points of interaction. Koslowski's work drew heavily on two schemes for Pare de la Villette in Paris in the 1980s and on the theories of American urban planner Kevin Lynch, author of *Images of the City* (1960). The focus was especially on making the experience of work environments more understand- able and legible, encouraging greater movement and interaction (Figure 6.4). Workscapes was subsequently developed into a planning toolkit in partnership with Herman Miller.
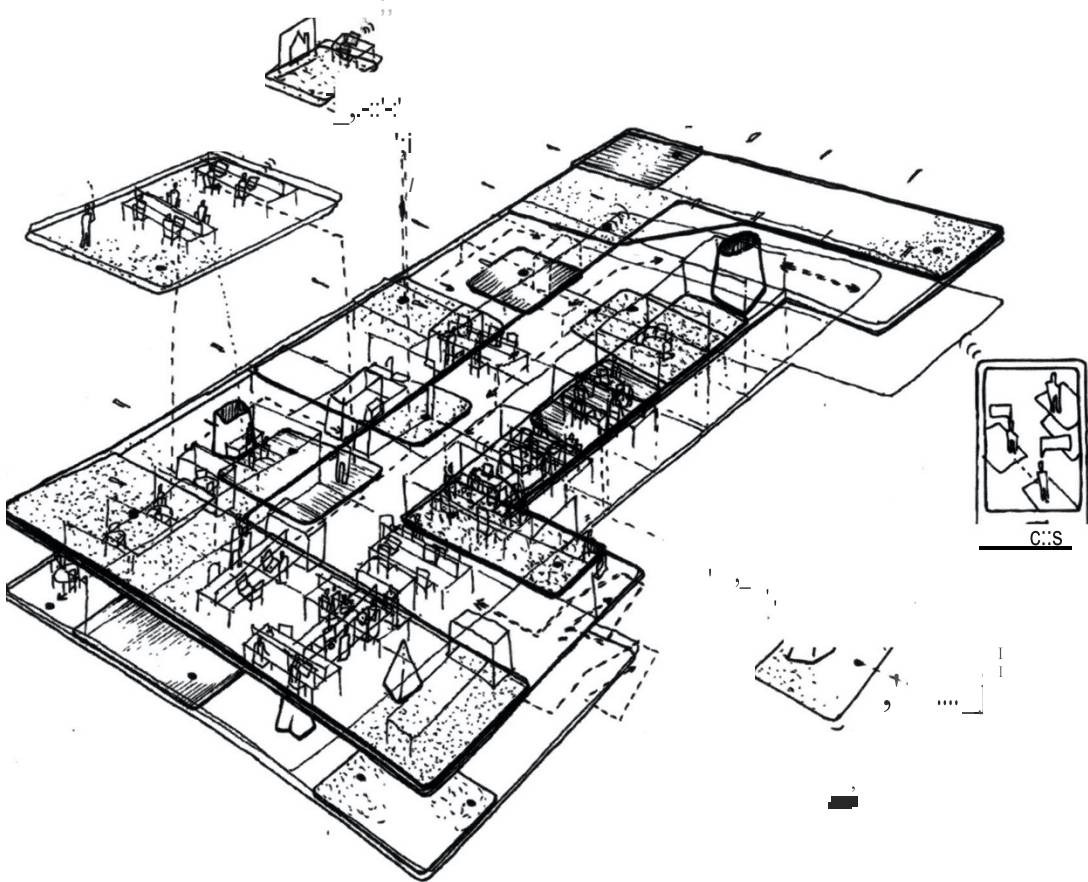

Figure 6.4 Sketch by Benjamin Koslowski explores urban planning principles of programmable surfaces and wayfinding objects in office space (Workscapes 2012)

Exploring sensation

Many work experiences are of a sensory nature and a natural extension of our research in this area explored the creation or evaluation of different sensations at work. In *Light Volumes, Dark Matters* (2010), Claudia Dutson questioned why levels of artificial light in commercial interiors such as offices and showrooms are increasing, and examined the impact of high levels of light on the people who have to work under them. In challenging a mechanical interpretation of productivity that is directly linked to the brightness of light in a space, she used a series of design research tools to build an alternative, more sustainable case for how workspaces should be lit. These included a linguistics exercise (Figure 6.5) to show the self-defeating nature of providing excessive levels of artificial light, which have a damaging effect on the health and well-being of employees as well as on the environment through greater energy consumption. Through use of such novel research tools, Dutson opened a widespread debate on the applicability and usefulness of current lighting codes.

In another lighting study, industrial designer Tom Jarvis (Privett and Jarvis, 2013) built on Imogen Privett's work in Living Stages, which had defined a vocabulary of low-cost stage techniques to create mood and atmosphere in the workplace. Jarvis designed one practical application of the research - a top-hung, illuminated screen system to support private concentration and informal collaboration in the open plan office by creating an enclosure of illuminated sur- faces. Jarvis tested a lightweight system capable of hanging from a suspended ceiling in three UK offices to investigate the psychological requirements of office workers in situations where they are required to concentrate or collaborate (Figure 6.6). Data was collected from more than 60 office workers in relation to screen variables such as translucency (low to high), colour (calm to vivid), illumination (soft to intense) and arrangement (open to closed), in order

Figure 6.5 Linguistics exercise by Claudia Dutson explores the meanings of light across a spectrum of intensity

Source : Dutson (20 I 0).

Figure 6.6 Designer Tom Jarvis (left) supervises a user research session in his prototype illuminated enclosure, Haworth, London (20 I 3)

to define the precise specifications of the new system. Full-size prototyping of this type - a characteristic of design research - is useful for understanding sensory preferences in the workplace.

Sensory experience was also central to work by Harriet Harriss and Suzi Winstanley in *Capture It* (2005), a study that looked at the future workplace for the multi-generational knowledge worker. In carrying out design-based ethnographic research with individuals and organisations in the UK and Japan, the researchers devised a series of sensory probes to gather data - these included a Japanese-inspired 'Knowledge Blossom' installation that gave workers an opportunity to tie their thoughts to a physical 'tree' in the office. Their study identified a need among older workers for more reflective and contemplative spaces that feel closer to nature, with softer, more tactile surfaces in natural materials replacing harsh grey, steel and glass - the brusque masculinity of the corporate environment. *Capture It* also provided insights more generally into the well-being needs of a multi-generational workforce and prefigured later research on workplace demographics and well-being at the RCA.

Affecting well-being

The fourth major theme of our design research for the workplace relates to affecting well- being. Our first venture into this area was with The Heart-Friendly Office (2002), a project

led by Mike Bond and Martin Coyne, which looked at ways in which workplace designers could help reduce levels of heart disease in the UK. Linked to the British Heart Foundation's workplace health programme, this project provided a bridge between medical factors (high cholesterol, high blood pressure, obesity, and so on) and design factors (such as local environmental controls, catering provision, and spatial adjacencies). It resulted in a communication campaign to encourage architects and developers to do more to create a healthier workplace.

Given the Helen Hamlyn Centre for Design's general focus on design for ageing populations, we swiftly developed the well-being theme to apply to older people facing extended working lives. Against a background of a shortfall in pension funds, newly introduced age discrimination legislation and growing management interest in retaining experience and knowledge in the workforce, Jeremy Gay's Work Well project (Gay, 2005) developed a series of inclusive design principles and furniture proposals to support older people at work. Concepts ranged from health-monitoring chairs and seating that encourages exercise to modular micro-stations for work on the move (Figure 6.7). Each proposal was designed to affect well-being.
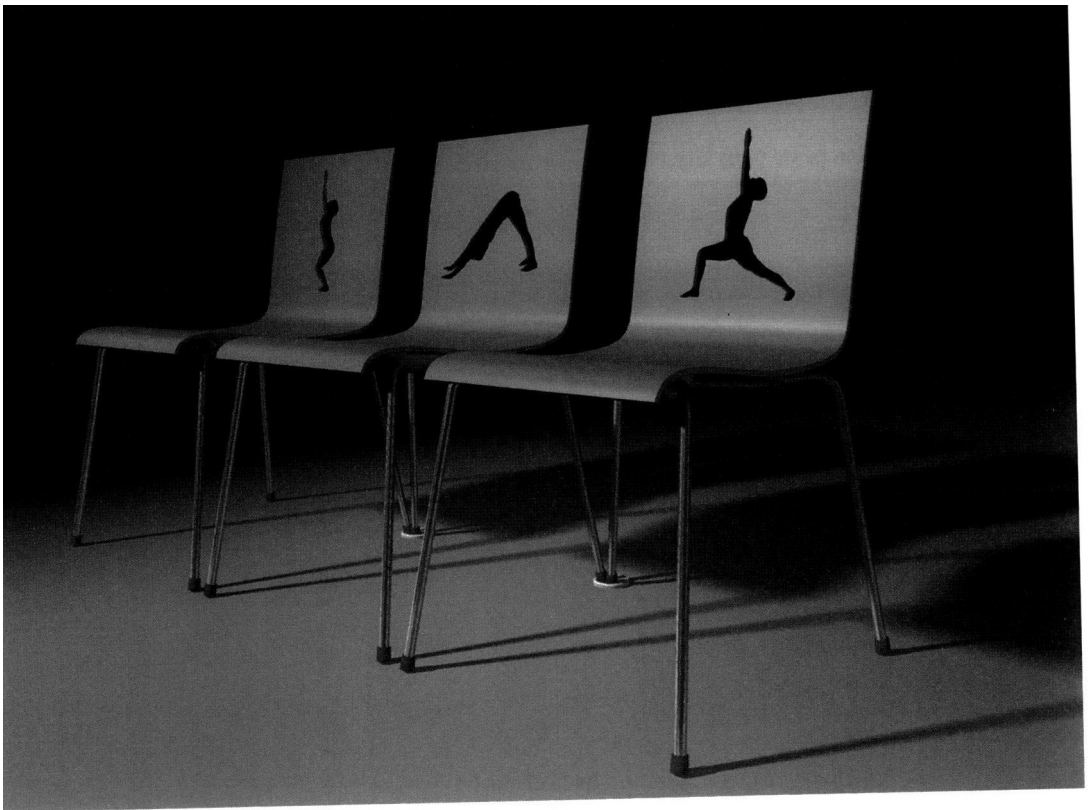

*Figure* 6.7 Seating design to encourage exercise at work.Jeremy Gay.Work Well (2005)

Work Well's body of research was followed up by Welcoming Workplace (Myerson and Bichard, 2009), which was funded by two UK Research Councils as part of the Designing for the 21st Century initiative. This much larger study looked at ways to rethink office design so that growing numbers of older people could participate in the knowledge economy, and it became our largest research engagement with the productive workplace. We studied around 80 office workers aged over 50 in three knowledge-intensive industries: pharmaceuticals, technology and financial services. Working with academic partners in Japan (the University of Kyushu) and Australia (the University of Melbourne), we engaged a group of senior knowledge workers who rarely draw attention to themselves - typically, mature research chemists, process engineers and financial analysts who comprise the 'corporate memory' of their employers and whose departure from the organisation would leave a hole in the knowledge base.

We interviewed these people in their organisations in London, Yokohama and Melbourne, and also quizzed the discipline managers responsible for their welfare and productivity in such areas as facilities, estates, human resources, occupational health and diversity. Based on what we learnt, we then built experimental work settings for them to experience changes to the environment in terms of lighting, acoustics, furniture, technology and ambience over a period of up to two weeks. These interventions were designed to gather additional information on needs and aspirations. The project generated its own intellectual property and registered designs, including a Rain Curtain (Figure's 6.8 and 6.9), Office Garden and Dynamic Lighting system - innovations that could be licensed by industry.

What we discovered about the well-being needs of older knowledge workers cast a dark shadow over the much-hyped move to open plan working. Our research found that key aspects of knowledge work, such as individual concentration on complex tasks, were poorly catered for by the general design of the open plan office. An overriding emphasis on collaboration and teamwork neglected the fact that knowledge work requires intense periods of deep, uninterrupted concentration and thinking, often undertaken alone. To achieve this, people often had no option but to take work home. For older knowledge workers, the need for dedicated spaces to concentrate on work was mirrored by the need for suitable spaces to contemplate - to think, relax and physically recuperate during the working day, shielded from the daily social grind of being constantly on show. Well-planned contemplation space was identified as a missing dimension in office design.

It was not simply a case that this group chose to arbitrarily dismiss the importance of social interaction at work; nobody wanted to go back to the bad old days of long corridors, private rooms and communication by formal memo. But even the act of collaboration itself was seen as poorly served by bland open plan areas in which physical proximity is no substitute for project settings which really support group working through enhanced display media, lighting, layout and protocols of use.

The Welcoming Workplace study produced design guidance for architects and developers of office buildings, in association with the British Council for Offices. It gave pause for thought on one-size-fits-all open plan, by advocating a range of dedicated settings for concentration, collaboration and contemplation, each with special features to address the particular demands of knowledge work and the physical consequences of the ageing process. Ultimately, what emerged from the study was a call for an inclusive, commonsense approach towards workspace that works for everyone engaged in the knowledge economy. The study was described in detail in *New Demographics, New Workspace* (Myerson *et al.,* 2010). It focused strongly on the well-being of older people at work, but in prototyping and testing experiential settings, it also explored behaviour, experience and sensory input.
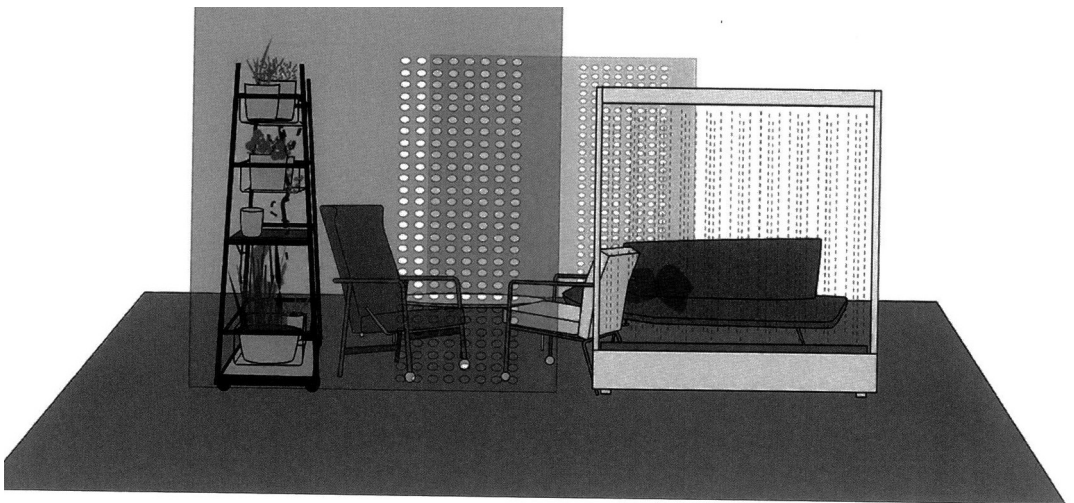
Figures 6.8 and 6.9 Rain Curtain designed by Catherine Greene as part of prototype zone for contemplation, WelcomingWorkplace (2009)

Conclusion

Discussion of workplace projects undertaken by the Helen Hamlyn Centre for Design at the RCA since 1999 has revealed the use of a number of different qualitative research tools and methods that derive specifically from art and design-based enquiry. In creating user scenarios and frameworks (*Work At Home, Sustainable Cultures),* in adopting drawing or wordplay techniques to gather data *(Space for Thought, Light Volumes, Dark Matters),* in transposing practical elements from other fields such as urban planning *(Workscapes, Living Cities),* in designing cultural probes to be placed in the environment *(Head Space, Capture It),* and in prototyping experiential settings with different levels of sensory input *(Living Stages, Welcoming Workplace),* our research has opened up new perspectives on the human condition.

Thinking about what it is to be human in any environment goes right to the core of art and design education and practice; and this is the angle that we have brought to the debate about creating the optimum workplace for productivity. We would not claim that such studies are a substitute for more scientific forms of research - however, they do provide an added layer or perspective on how people perform in space. The overall approach is relational and experiential, providing insights into how people really behave and feel in relation to certain conditions and certain stimuli. We believe this has value to the property industry as it contemplates con- structing the next generation of productive workplaces, but more work still needs to be done to really get the message across thjt creative design indicators should count as much as technical or statistical evidence.

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