

When good office designs go bad: Labor Process Theory, the Scanlon Plan, and the evolution of Herman Miller's Action Office

Petra Seitz, Bartlett School of Architecture - UCL



Figure 1 - Image from a 1979 Herman Miller brochure titled 'Managing the Work Environment'. Image courtesy of Herman Miller Archive.

Many histories of the commercial office, particularly those published prior to COVID-19 would have us believe that the early twenty first century was the heyday of office design; that we are the beneficiaries of a century-long evolution of these spaces from the dank and oppressive cave-like offices of the early twentieth century to the rationalized, streamlined, and flexible spaces of the midcentury, to the technology and amenity-laden campuses of contemporary Silicon Valley.¹

This narrative of continual improvement is evoked in particularly strong and consistent ways with regard to the mid-century office. Created within an era seeped in optimism and a rapid explosion in the development and utilization of new technologies, the mid-century office has developed a strong reputation for its departure from preceding office spaces, characterized by the addition of light, color, flexibility, and humanity to the newly enlarged white-collar workforce.²

Following the conclusion of the Second World War and in the midst of a significant economic shift in the (over)developed world from industrial manufacturing and production to more sedentary information and paperwork related fields, commercial office workplaces proliferated across major metropolises and

¹ In her brief overview of the office, aptly titled *office*, Sheila Liming summarizes the trajectory of office spaces; 'The open space of the office thus transitioned from being one built for control...to one built for ease and accessibility.' Sheila Liming. *Office*. Object Lessons. New York: Bloomsbury Academic, 2020.

² Adrian Forty. *Objects of Desire: Design and Society 1750-1980*. 3rd ed. London: Thames and Hudson, 1989.

their suburbs. This newly-reinvigorated subsection of the built environment fast-attracted some of the largest architectural names of the middle of the twentieth century including Walter Gropius (PanAm Building – 1952), Gordon Bunschaft (Lever House – 1952), Mies van der Rohe (Seagram Building – 1958) and Eero Saarinen (GM Technical Center – 1956, Bell Labs – 1962, John Deere Headquarters – 1964). Characterized by the implementation of newly available or affordable materials, particularly large pane glass paneling, the mid-century office promised a spatial revolution, making white collar work stations more comfortable, more efficient, and more beautiful both for those working within them and those passing by. Bolstered by additional interest and research into office efficacy and the growing field of ergonomics, the midcentury office claimed to be making methodological and scientific strides toward an empirically better office.³

Despite generally positive critical and scholarly reception, both period and contemporary, a selection of problematics emerge from the mid-century office and its historical legacies. Physically, the mid-century office arguably solidified the open office, with its lack of persistent personal privacy, as the standard floor plan for the office genre. Through generation and provision of intellectual rationale and supposedly scientific evidence, the open office began to be enshrined as a typological standard. Further, within the open office many of the less-than-ideal physical design features of preceding designs such as minimal auditory and visual privacy, standardization of workstation configuration and denial of personalization were repeated, reinforced and in many ways intensified.

Another notable problematic is the contradiction between the optimistic intentions of the midcentury office and the eventual spatial consequences of these designs. While progenitors of midcentury office spaces set off to inspire creativity, engender cooperation and communication, and allow for continual change within office spaces, as their products disseminated across furniture markets offices these designs began to evolve, ending, as many scholars and pundits have suggested, in perhaps the most-disliked office designs of all time, the cubicle.

The midcentury era, thus, presents the historian of the office with a contradiction; if, as described frequently by midcentury architects and subsequent scholars, this era of office architecture was characterized by and rooted within a humane, flexible, progressive, and forward-thinking approach to work and workspaces, how were the designs so easily coopted into the inhumane, inflexible cubicle?

This paper utilizes the case study of Herman Miller's Action Office system to begin addressing this contradiction, delving into the relationships between the design of office spaces and conceptions of the labor process held by many designers, researchers, and manufacturers of the mid-century.

Introduced to the market in 1967, Herman Miller's Action Office II system promised to revolutionize the office furniture and office architecture industries. The system intended to improve the office by adding humanity, flexibility, and integrating sophisticated technology into spaces previously ignored by architects and designers. However, such positive intentions were not to last long. Twenty-five years after the system's launch, Action Office was widely understood as the primary precursor of the dreaded, dreary, uniform, and inflexible cubicle style of office interior. What had started out as a utopian, Theory Y

³ Action office inventor Robert Propst embodies such an approach in his reflection on the Action Office system, *The Office: A Facility Based on Change*. Robert Propst. *The Office: A Facility Based on Change*. Herman Miller, 1968.

infused attempt to humanize the office had become the diametric opposite; a soulless, humanity-crushing space, inflexible and unchangeable for individual users.

Existing literature on Action Office generally follows patterns set by broader analysis of the open plan office as a type; that unintended, negative impacts and effects are the result of individual bad actors, incorrectly implementing systems and putting them to ill-intentioned use.⁴ Such analysis appears to deflect culpability for Action Office's negative historical legacy away from the producing company (Herman Miller), the designer (Robert Propst), and the design itself and toward clients and users of the system.

This paper argues that explanations for the devolution of the open office rooted in individual or personal failings are insufficient. Instead, in order to fully understand Action Office itself, as well as subsequent office furniture systems, this paper suggests that attention must be turned to the ideologies and assumptions underlying the Action Office system and motivating its design specifics; particularly those related to work, the labor process, and labor relations.

It is striking, for instance, that none of the many architectural and design historians writing on Action Office have inquired about the management philosophies and systems which prevailed at Herman Miller during the time of the system's coalescence. When probed, management practices at Herman Miller reveal themselves to be fairly distinct and highly relevant to and interrelated with the development of designed products for the white collar workplace. For many years, including the timeframe within which Action Office 1 and 2 were developed, Herman Miller utilized a bespoke Scanlon Plan, soliciting input and suggestions from employees to improve productivity in exchange for a percentage of additional profits gained or costs saved stemming from implemented suggestions.

Unpacking Herman Miller's corporate ethos toward labor and work examination of the company's Scanlon plan, this paper outlines the attitudes taken toward labor at the company, mapping these attitudes and understandings onto the physical reality of the office furniture systems the company designed. Beginning with an introduction to Herman Miller and the Action Office system, the paper proceeds to detail the development, details, and implementation of Herman Miller's Scanlon plan, before turning attention to the labor process implications of this gainsharing system. The paper concludes by exploring the ethos and implications of Herman Miller's Scanlon plan to the form and development of the Action Office system, highlighting larger trends in the relationships between postwar ideologies of labor, the reality of labor relations, and the design of the mid-century office.

Why Action Office?

Herman Miller's Action Office is an ideal candidate through which to reevaluate the experience and legacy of the mid-century commercial office because of the system's large geographical and demographic reach and its central position in histories of the office.

Action Office was and has remained a popular furniture system in the American Midwest, across the United States, and throughout the world. While contemporary client lists are not publicly available,

⁴ One of the most critical evaluations of the evolution of mid-century office designs is undertaken by journalist and leftist politician Nikil Saval in his history of the office, *Cubed*, however this analysis, while identifying the devolution of these designs, stops short of investigating or naming any fundamental socio-political or economic rationale for such changes.

archival materials indicate that historic Action Office II users included the US Federal Reserve, Pan American Airway, Metropolitan Life Insurance, Hallmark Cards, Alcoa, Proctor & Gamble, General Electric, IBM, Xerox, Ford, Chevrolet, Chrysler, and Pitney Bowes, alongside 21 medical centers, 46 educational organizations, and 19 government offices.⁵ Spread across the United States from the East to West coasts and encompassing a wide variety of industries and size of enterprise, Action Office’s client base, and through this the reach of its design, was, and remains, significant.⁶

In addition to Action Office’s physical presence across the world, the system is also conceptually ever-present in dialogue and conversations regarding office spaces through its frequent use as a case study or practical example of the mid-century office interior. A survey of case studies examples discussed in the literature suggests that Action Office is referred to in roughly 66% works consulted.⁷ As a result of its widespread use within physical spaces and literature, Action Office occupies a significant position in the zeitgeist both as a historical example of the open office and a contemporary fixture of this typology.

	Duffy, the new office	Saval, Cubed	van Meel, The European Office	Forty, Objects of Desire	Liming, Office	Kaufmann-Buhler, Open Plan	Haigh, The Office	Caruso St John, Office on the Grass	Kuo, A-Typical Plan
ABN AMRO Headquarters			x						
Action Office		x			x	x	x	x	
Aeron Chair		x		x					
Amazon Seattle					x				
Andersen Worldwide	x								
AT&T Building		x							
Banca Popolare di Lodi			x						
Bell Labs		x							
Benevia	x								
Bertelsmann			x						
Boislie Cascade Home Office (SOM)									x
British Airways - Compass Centre	x		x						
British Telecom - Stockley Park	x		x				x		
Broadgate	x								
BuroLandschaft		x	x	x		x	x		
Canary Wharf	x							x	
Canon Swedish Headquarters			x						
Casa del Fascio									x
Centraal Beheer	x		x	x			x	x	x
Centre Point							x	x	
Channel 4	x								
Chase-Manhattan Bank								x	
Chiat/Day NYC	x	x				x		x	
Chicago Loop		x					x		
Chrysler Building	x		x						
CIGNA/Connecticut General	x	x					x		
Coca Cola Italia			x						
Commerzbank			x						
Communication Center									x

Figure 2 - Table of case study references made in office literature. See Appendix 1 for full chart.

Herman Miller history

Action Office was created and manufactured by American furniture manufacturer Herman Miller. Located in Zeeland, Michigan and founded in 1905 as the Star Furniture Company, the company produced generic wooden, Victorian-styled furniture for its first two decades of operation.⁸ Amid a competitive furniture market and economic depression, the company pivoted to the creation and dissemination of modernist furniture in 1933 under the guidance of CEO DJ De Pree and creative director

⁵ Action Office II User List, April 1973, 2.P.2.5.10, Herman Miller Archives, Zeeland Michigan. All the listed examples are contained in this one-year client summary, suggesting a more expansive historical and future client list.

⁶ Archival materials also indicate a significant push on the part of Herman Miller to establish the Action Office II system within the United Kingdom and Germany, with extensive promotional and sales materials retained from these ventures. This expansion is particularly interesting given Herman Miller’s surrendering of licensing and sales rights for its domestic furniture within the European markets to Vitra.

⁷ See Appendix 1 for complete details of case studies utilized in the literature.

⁸ John R. Berry. *Herman Miller: The Purpose of Design*. New York: Rizzoli, 2004. Pages 13-24.

and designer Gilbert Rohde.⁹ This era gave rise to creative partnerships with notable modernist designers (Charles and Ray Eames, George Nelson, and Isamu Noguchi), who crafted now iconic designs for Herman Miller such as the Noguchi Table (1947), Eames Lounge Chair (1956), and Marshmallow Sofa (1956, 1961).¹⁰

Following the success of Action Office II in the late 1960's, Herman Miller shifted company focus away from the domestic sphere and towards the commercial office, breaking new ground in the design of ergonomically-based office furniture with Bill Stumpf's 1976 Ergon chair, followed by Stumpf and Don Chandwick's 1994 Aeron chair, Studio 7.5's Mirra chair in 2003, and several successive office systems in line with the overarching principles of Action Office.¹¹

The company was led by a succession of De Pree family members (DJ De Pree, Hugh De Pree, Max De Pree) until 1987 when the rapidly growing company was entrusted to outside leadership for the first time.¹² In the twenty-first century, Herman Miller has continued to expand, acquiring several other notable modernist furniture sellers (and former competitors), Design Within Reach in 2014¹³ and Knoll in 2021.¹⁴ As of 2023 the company trades as MillerKnoll, and has retained its historic Zeeland, Michigan headquarters.

Action Office Inventor Robert Propst

Within the operations of Herman Miller, Action Office's general conception and particular design are in large part the brainchild of inventor Robert Propst, initially hired as a part time freelance researcher and product developer by the company in 1958.¹⁵

After dropping out of a chemical engineering program in college and pivoting to fine arts studies at the University of Colorado, Denver,¹⁶ Propst served as a Line Officer in the U.S. Navy during the Second World War before beginning his professional career as a graphic artist, teacher, and sculptor at Tarleton State College and the University of Colorado.¹⁷ Propst stopped teaching in 1953, establishing his own product development company.¹⁸

⁹ Herman Miller. "Company Timeline." Accessed September 25, 2023.

https://www.hermanmiller.com/en_gb/about/timeline/.

¹⁰ Berry, p. 69.

¹¹ Berry, p. 222-229.

¹² Herman Miller, "Company Timeline".

¹³ Michael J. de la Merced. "Design Within Reach Merger Never Happened, Lawsuit Claims." *New York Times*, June 6, 2016. <https://www.nytimes.com/2016/06/08/business/dealbook/design-within-reach-merger-never-happened-lawsuit-claims.html>.

¹⁴ Herman Miller. "Herman Miller Completes Acquisition of Knoll," July 19, 2021.

https://www.hermanmiller.com/en_gb/press/press-releases/herman-miller-completes-acquisition-of-knoll/.

¹⁵ Herman Miller, "Company Timeline".

¹⁶ Leon Ransmeier. "LIVE ACTION: Inventor Robert Propst and the History of the Modern Cubicle." *Pin-Up*.

Accessed September 25, 2023. <https://archive.pinupmagazine.org/articles/the-story-of-action-office-2-and-cubicle-inventor-robert-propst-herman-miller>.

Personnel file for Robert Propst, n.d., Accession 3 – Misc Propst Docs – Folder 19, Herman Miller Archives, Zeeland, Michigan.

¹⁷ Personnel file for Robert Propst, Herman Miller Archives.

¹⁸ Personnel file for Robert Propst, Herman Miller Archives.

Propst was initially brought into the Herman Miller fold on a retainer employing him for two-fifths of his time to conduct research into a variety of topics including ‘human factors in workstations, the development of a litter for burn victims, and a mechanical and automatic bed-chair for quadriplegics.’¹⁹ After three years of collaboration, Propst was contracted by CEO Hugh De Pree to become the head of the newly formed Herman Miller Research Division with a mandate to ‘explore problems for which “a product not necessarily furniture” might be the solution’.²⁰ Propst’s exact duties and responsibilities within the research division remain unclear; hand-drawn organizational charts from 1974²¹ establish ‘Search and Exploration’ as Propst’s main duties, with a supervisory role over ‘Outside Systems Ventures’, ‘Environmental Technologist Service’, ‘Planning Services’, ‘Software Production and Publishing’, ‘Contract Research’ and ‘Outside Tests and Experiments’.²² It is notable that despite allocation of such a broad range of responsibilities, Propst had little formal training or experience in quantitative research methodologies, and no formal education within the fields for which he would be conducting research, notably labor or working practices.

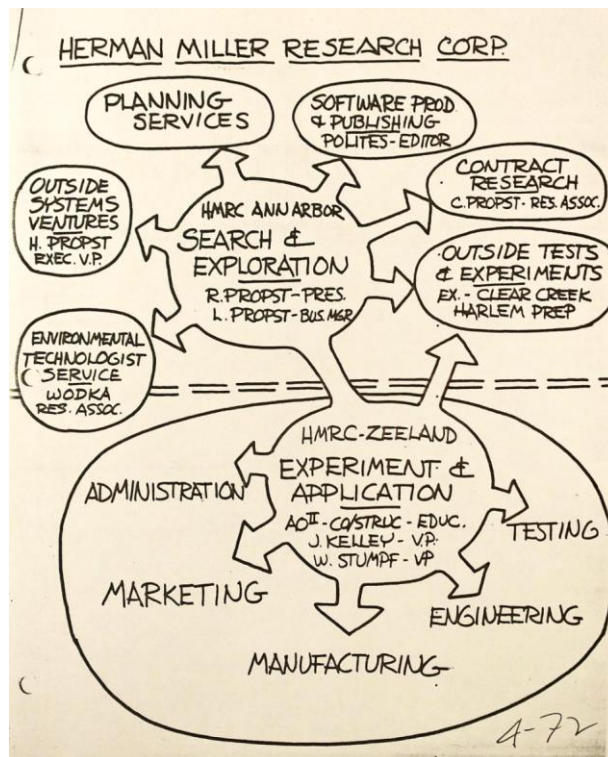


Figure 3 - Herman Miller Research Corporation Organizational Chart. Image courtesy of Herman Miller Archive.

¹⁹ Ralph Caplan. *The Design of Herman Miller: Pioneered by Eames, Girard, Nelson, Propst, Rohde*. New York: Whitney Library of Design, 1976 p. 76.

²⁰ Stanley Abercrombie. *George Nelson: The Design of Modern Design*, by Stanley Abercrombie. Cambridge: MIT Press, 2000 p. 210.

²¹ Illustrated in what appears to be Propst’s own handwriting.

²² Hand drawn organization chart and responsibilities, April 1972, Accession - 3 Propst Docs - Folder 20, Herman Miller Archives, Zeeland, Michigan.

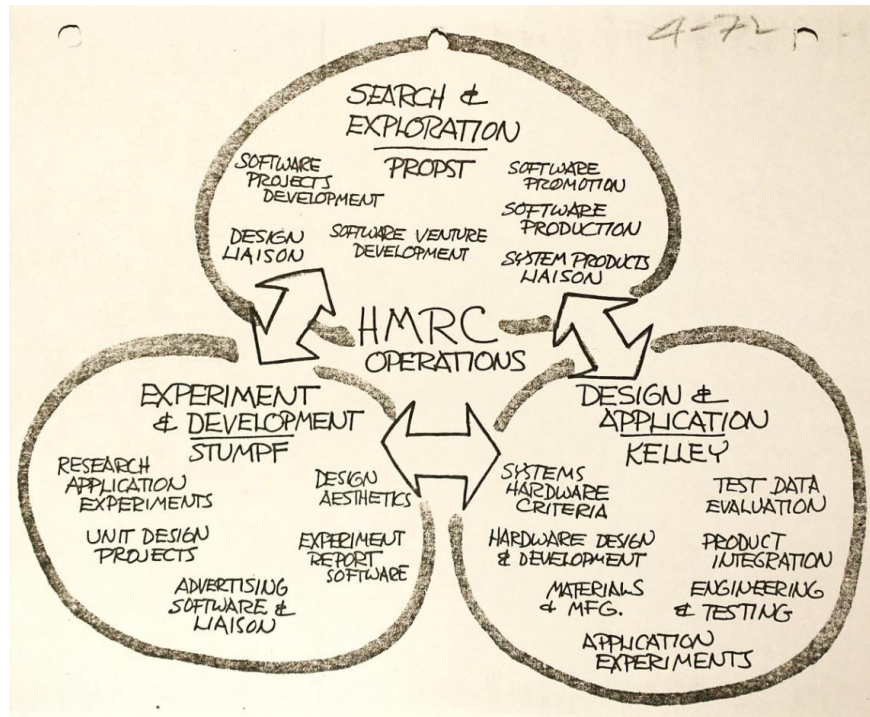


Figure 4 - Expanded Herman Miller Research Corporation Organization Chart, including job duties. Image courtesy of Herman Miller Archive.

Herman Miller's Research Division

Located outside of Herman Miller's Zeeland headquarters, the Research Division situated itself 'in a small research park' in Ann Arbor, Michigan, in close proximity to the University of Michigan, Ann Arbor and the multitude of research projects being conducted by University faculty.²³ From this facility, Propst and his team began research and work on 'a staggering range of projects, all of them afield from traditional Herman Miller activities' from designs for hospital storage and organization (what would become the Co-Struc system) to machinery to more effectively process lumber.²⁴

The Research Division styled and promoted itself as the loci of research, information, and knowledge gathering at the company, proclaiming it's work to be 'intensive and unique'.²⁵ Despite the division's self-styling and frequent mentions of research in publicity and promotional materials for the system, few records of the research results pertaining to Action Office are available within the company's otherwise extensive archives. Surviving documents such as division statements and research findings suggest research undertaken for the system consisted primarily of questionnaires distributed to Herman Miller employees, and analyses of working patterns and preferences *within* the team of the Research Division, particularly those of Propst himself.²⁶

²³ Caplan, p. 73.

²⁴ Caplan, p. 73.

²⁵ 'An introduction to your Action Office environment' brochure, HMI Promo VH1501 – 60, Herman Miller Archives, Zeeland, Michigan.

²⁶ Herman Miller Inc. Research Division Statement, June 1, 1962, Accession 3 - Misc Propst Docs – Folder 3, Herman Miller Archives, Zeeland, Michigan.

Action Office 1

Propst's first largescale project as head of the Research Division was investigation into and accommodation of his own ways and methods of working.²⁷ Noticing that "tasks were migrating to the drafting table and all the walls were becoming areas for display"²⁸ Propst went to work, monitoring his own working habits, and crafting and disseminating surveys for other office workers.²⁹

While Propst accumulated information on office tasks and on work more abstractly, his background and skillset lay within product development, not product design or aesthetics. To create a market-ready product, designer George Nelson was brought into the Action Office project, creating 'a union of Propst's ideas and Nelson's design details.'³⁰ The result of this meeting of the minds was Action Office 1 - a sleek steel and wood paneled suite of office furniture, carrying a price tag to match its sophisticated design and high-end materials and manufacturing techniques.

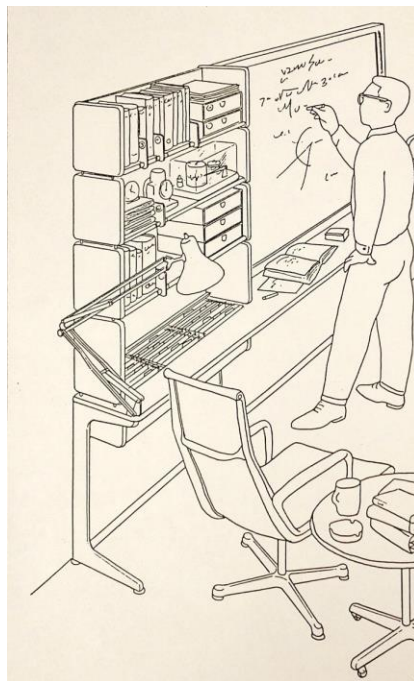


Figure 5 - Drawing of potential Action Office 1 implementation including standing desk, chalkboard, Eames office chair, bookshelves, and side table. Image courtesy of Herman Miller Archive.

Action Office 1 products featured curved wooden and metal surfaces supported by elegantly shaped metallic legs resting upon delicate feet. Many desks included wooden roll-top covers hovering only inches above the writing surface, able to be slid over any unfinished work at the end of a business day to retain privacy and confidentiality of the work under completion, as well as the illusion of tidiness within the workplace. Desks and shelving units were sided with rounded square panels, colored in inoffensive

²⁷ Abercrombie, p. 210.

²⁸ Propst quoted in Abercrombie, p. 210.

²⁹ Berry, p. 117-125 and Caplan, p. 76.

³⁰ Caplan, p. 76.

and unobtrusive blue, black, green, and gray tones. The system attempted to address every possible storage need, from books and papers to new office technologies, even offering specialized compartments within desks for pens, pencils, erasers, and other stationary products.

Action Office 1 debuted to significant critical acclaim. *Industrial Design* stated that upon ‘Seeing these designs one wonders why office workers have put up with their incompatible, unproductive, uncomfortable environment for so long’, and the *Saturday Evening Post* declared ‘Office workers of America, beware! The Action Office is coming! We are in real danger of being enabled to work at 100 percent efficiency.’³¹ Despite such exuberant reviews, praise from press and industry insiders was not sufficient to inspire sales of the system. Postmortems of Action Office 1, both from inside and outside of Herman Miller suggest that the system failed to catch on within the wider American and global workplace due to the system’s high production and retail price and potentially “cumbersome” design.³²

Action Office 2

Following the commercial failure of Action Office 1, refusing to give up on the Action Office concept, Propst returned to his research and set about developing a second iteration of the system.

During the window between release of Action Office 1 and intensive design/planning for Action Office 2, Nelson and Propst ended their creative partnership, with Nelson departing the Action Office project, but remaining involved in broader design activities at Herman Miller.³³ The precise date of Nelson’s departure, along with specific reasons for the rupture with Propst remain unclear. What is clear, however, was Nelson’s distain for the system, made clear through both public and private avenues; in a letter to Robert Blaich, then Herman Miller’s Vice-President for Corporate Design and Communication, Nelson denounced Action Office’s ‘dehumanizing effect as a working environment’.³⁴

George Nelson’s departure from the Action Office project is visible in the system’s final aesthetics and design. Chrome and wood features prominent in the first Action Office iteration were replaced with more contemporary upholstered fabric and plastic elements. Bookshelves, included by Nelson to provide personal privacy and simultaneously allow for storage of necessary objects, gave way for fabric-covered partition walls, intended to be utilized at a significantly higher frequency.

Action Office 2 was comprised of a large variety of component parts, which could be combined to create differentiated work areas for different categories of worker. The Herman Miller archives provide a selection of evocative full-color photographs from the 1960s and 70s of these varying combinations, and their intended audience and usage. Secretarial spaces could be formed by opening up the partition panels, providing only a backing and side surface and minimal storage. Clerical workers could be provided with slightly more storage, the addition of technological machinery, and the provision of more work surfaces. Supervisors could be outfitted with standalone desks with greater work surface area,

³¹ Quoted in Nikil Saval. “The Cubicle You Call Hell Was Designed to Set You Free.” *Wired*, April 23, 2014. <https://www.wired.com/2014/04/how-offices-accidentally-became-hellish-cubicle-farms/>.

³² Caplan quotes then CEO Hugh de Pree as having stated ‘Action Office 1 was poorly made, it wasn’t really a system, and it was extremely high priced to boot.’ (p. 76).

³³ Abercrombie, p. 219.

³⁴ Abercrombie, p. 219.

additional storage furniture, and a more defined and enclosed space in which to work. Even company directors and executives could utilize Action Office components within private, enclosed rooms.



Figure 6 - Secretary Work Area, as depicted in a Herman Miller promotional brochure. Image courtesy of Herman Miller Archive.



Figure 7 - Clerical Work Area, depicted in a Herman Miller promotional brochure. Image courtesy of Herman Miller Archive.



Figure 8 - Supervisor Work Area, depicted in a Herman Miller promotional brochure. Image courtesy of Herman Miller Archive.



Figure 9 - Director Work Area, depicted in a Herman Miller promotional brochure. Image courtesy of Herman Miller Archive.

Following the system's introduction to the market, Action Office 2 was installed at Herman Miller Headquarters; 'all office areas, including two administration buildings, both converted manufacturing buildings, its data processing, technical center, sales offices and manufacturing offices.'³⁵ As the system spread across the Herman Miller campus, it also spread throughout the world; archival materials demonstrate global adoption of Action Office, with yearly folders of promotional materials in an increasingly large variety of languages, emanating from an expanding network of local showrooms and sales offices.

The Action Office system was promoted by Herman Miller as 'more than just another group of modern furniture'.³⁶ Action Office was, in the words of Hugh De Pree, 'a true innovation, perhaps the first innovation in the office field in quite a number of years.'³⁷ According to Herman Miller publicity, Action Office was designed to facilitate 'the renewed rise of individuality' in the workplace, disallowing 'a continuation of sterile uniformity with status as the only definition' through its introduction of easily interchangeable and alterable components.³⁸ Action Office, as stated by Robert Propst, was a system

³⁵ Propst Planning Team, page 2, n.d. Accession 3 – Folder 20, Herman Miller Archives, Zeeland, Michigan. While Action Office 2 items are no longer in place within these spaces, Herman Miller office spaces still exclusively utilize products designed and manufactured by Herman Miller. Within the Zeeland campus employee break areas prominently feature the company's more recognizable consumer furniture pieces, including the Eames Lounge Chair.

³⁶ Talk for Action Office Press Party by Hugh de Pree, November 16, 1964 Accession 3 - Folder 35, Herman Miller Archives, Zeeland, Michigan.

³⁷ Talk for Action Office Press Party by Hugh de Pree, November 16, 1964 Accession 3 - Folder 35, Herman Miller Archives, Zeeland, Michigan.

³⁸ Robert Propst. *The Office: A Facility Based on Change*. Herman Miller, 1968 p. 17.

rooted in several years of research and development which would re-emphasize the human performer in the workplace, facilitating a 'break with convention' geared toward the increase of worker 'vitality, fluency, and productivity'.³⁹ As understood by its creators and repeated in marketing and sales materials, Action Office was intended and designed to revolutionize the design and use of office spaces for the better, simultaneously humanizing and streamlining these spaces.

While Action Office *would* turn out to be 'more than just another group of modern furniture', the system would not fulfill this prediction and aspiration in the ways Propst and Herman Miller leadership envisioned. Shortly after the launch of Action Office II derivative products began to appear on the marketplace, with taller, greyer partitions not designed for ease of repositioning by employees.⁴⁰ Instead of being used as Propst envisioned to facilitate increased collaboration and communication, partition walls began to be used to permanently divide people, further depriving them of any vestiges of natural air and sunlight which might have previously existed.⁴¹

Something, somewhere, had clearly gone quite wrong.

Although Propst acknowledged negative changes to Action Office's implementation and use, throughout the rest of his career the designer attributed the grey, inflexible, inhumane trajectory of Action Office not to faults in the design, but rather to user error. In a 1998 retrospective interview with *Metropolis* magazine, Propst suggested 'The dark side of this is that not all organizations are intelligent and progressive. Lots are run by crass people who can take the same kind of equipment and create hellholes.'⁴² Through statements such as this Propst argued both that his Action Office system was fundamentally 'intelligent and progressive', and therefore that any negative implementations or effects of the system had to find their origins within the 'crass people' actualizing the system within individual workplaces.

While individual character flaws on the part of managers implementing and adapting Action Office systems is one possible explanation for the system's negative changes and reception, it is far from the most convincing. It *is* possible that scores of individual facilities managers and corporate elites across the world simultaneously employed the Action Office system 'incorrectly' due to personal failings. However, this explanation is unlikely to reflect reality. Rather, the widespread devolution of Action Office and 'crass' utilization of its component parts hint at a more fundamental root cause, drawing management to the cubicleized implementations of the system. This paper argues that exploration of labor understandings and practices within Herman Miller itself, and comparison of the company's approach to labor relations with the reality of capitalism, can begin to explain why, if not how, such a well-intentioned system led to less than ideal end results

³⁹ The influence of behavioral sciences on office design by Robert Propst, Accession 2010.83 – Box 42 – Action Office addendum – Action Office, undated, Henry Ford Museum Archives, Dearborn, Michigan.

⁴⁰ The birth and spread of the cubicle is a well-covered point within office historiography, touched upon by Liming, Saval, Haigh, Duffy, Kaufmann-Buhler and others.

⁴¹ Saval, p. 218-8. Michelle Murphy's *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers* (2006) goes in depth into the negative environmental changes within white collar workspaces brought about, at least in part, by the wholesale adoption of divisive partition furniture systems such as Action Office.

⁴² Quoted in Saval, 2014.

Understandings of Labor at Herman Miller - Scanlon Plan

Attitudes toward and understandings of labor and work at Herman Miller during the 1960s can in large part be reconstructed through exploration and analysis of the company's Scanlon gainsharing plan. Scanlon Plans attempt to simultaneously increase the financial wellbeing of company management and employees through the implementation of employee-led modifications to the way work is conducted alongside redistribution of resulting profits to employees.⁴³

In the words of CEO Hugh De Pree in a 1975 speech on productivity, 'The Scanlon Plan is an innovative strategy for managing an organization. It is innovative in philosophy – participative. It is innovative in structure – formal committees to involve all employees in the decision-making process. It is innovative in compensation – a productivity sharing bonus. It combines the leverage of capital, the skill of managers, the creativity and competence of all employees and the opportunities of technology into a system supported by participation and an equitable sharing of productivity to meet the needs of customer, owner, and employee.'⁴⁴

The Scanlon Plan was developed by Joseph Scanlon, a cost accountant and local leader of the United Steelworkers union during the Great Depression.⁴⁵ In his role as a union representative Scanlon brokered an arrangement between Steelworkers and management at the Empire Steel and Tin Plate Company of Cleveland.⁴⁶ This deal offered increased employee contribution to workflows and work processes in exchange for a proportion of the additional profits generated by the suggested changes.⁴⁷ Through this arrangement Empire Steel was able to stay fiscally viable during a contracting economic climate, and employees were fairly compensated for all their labor within the production process; both intellectual and physical.

Scanlon's eponymous plan philosophically and intellectually emerged from a core set of understandings regarding the Capitalist labor process. First, and perhaps most importantly, Scanlon adopted a Marxist conception of labor relations as being characterized by a consistent and 'underlying' conflict of interest between management and laborers.⁴⁸ Marxist economics and political thought operates under the understanding that Capitalism's continued success revolves around the generation of ever-increasing profits, themselves extracted from laborers.⁴⁹ Capitalism, in other words, depends on the exploitation of one group (laborers) to increase the wealth of another (owners, capitalists). Because of this, relationships between workers and management are tense and characterized by conflict. Managers are

⁴³ Denis Collins. *Gainsharing and Power? Lessons from Six Scanlon Plans*. Ithaca: Cornell University Press, 1998 p. 10.

⁴⁴ 'Productivity – A National Problem' speech by Hugh de Pree, April 24, 1975, Accession 3 – Hugh de Pree Talks – Folder 35 – Part 2, Herman Miller Archives, Zeeland, Michigan.

⁴⁵ Collins, p. 9-10.

⁴⁶ Daniel Wren. "Joseph N. Scanlon: The Man and the Plan." *Journal of Management History* 15, no. 1 (2009): 20–37. <https://doi.org/10.1108/17511340910921763>. P. 21-5.

⁴⁷ Collins, p. 9-10.

⁴⁸ Collins, p. 25.

⁴⁹ Harry Braverman. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. London: Monthly Review Press, 1974. P. 52, 206.

always trying to extract more unpaid labor and value from workers, and workers are trying to protect their own interests, wellbeing, and livelihood.⁵⁰

Despite his perception of labor relations as characterized by conflict, Scanlon positioned conversation and cooperation between employees and management as a core element of any successful gainsharing plan. Conversation and cooperation was necessary, according to Scanlon, because line employees executing work tasks, and *only* these employees, held essential and irreplaceable knowledge of work process; of how work actually was, and could be, done.⁵¹ It follows, then, that Scanlon believed plans such as his own were only feasible through a wholehearted attempt by labor to share knowledge over the labor process and earnestly work toward increasing productivity and profits, and a simultaneously genuine commitment on the part of management to both respect and honestly implement the suggestions made by employees and to provide proportional wage increases based on implemented ideas.⁵²

Further, as a union representative, Scanlon conceptualized the position of the worker in his systems as being represented by organized labor; by unions functioning as the mouthpiece and conduit of the interests of employees.⁵³ Through union bargaining and representation the voices of individual workers could be greatly magnified, and collective understandings of worker's experiences and needs could be developed.

Scanlon plans, both those fully in line with Scanlon's original ideas and those deviating somewhat from the initial principles, have been studied extensively in labor, economics, and management texts. The literature concludes that Scanlon plans, particularly when implemented fully, are successful in realizing 'significant cost savings' and resulting in 'significant health and safety improvements'.⁵⁴ Scanlon plans have been linked with a rise in employee satisfaction; a decrease in employee grievances and an increase in perceived employee voice in decision-making.⁵⁵ Further, when implemented robustly, a Scanlon plan can give rise to employee sentiments of jobs becoming easier to perform.⁵⁶

Herman Miller's Scanlon plan, while noticeably absent from literature exploring the design of Action Office, is frequently covered in management literature. According to business ethicist Dennis Collins, 'Management research abounds with descriptive case studies of companies with Scanlon-type gainsharing plans. The company most often mentioned is Herman Miller...'⁵⁷ Herman Miller's plan has been featured in *Training* magazine (Herman Miller: Where Profits and Participation Meet), *Sloan Management Review* (Labor-Management Cooperation – The Scanlon Plan at Work) and *Human*

⁵⁰ A basic principle of Marxist thinking, summarized with strong and clear prose by Braverman: 'Labor and capital are the opposite poles of capitalist society...Whatever its form, whether as money or commodities or means of production, capital is labor: it is labor that has been performed in the past, the objectified product of preceding phases of the cycle of production which becomes capital only through appropriation by the capitalist and its use in the accumulation of more capital. As such, the working class is first of all raw material for exploitation.' (p. 377)

⁵¹ Collins, p. 33-5.

This in and of itself is also an application of a Marxist principle, the location of labor knowledge with the worker.

⁵² Collins, p. 24-5.

⁵³ Collins, p. 25.

⁵⁴ Collins, p. 219-221.

⁵⁵ Collins, p. 221.

⁵⁶ Collins, p. 221.

⁵⁷ Collins, p. 15.

Resource Management (Strategic Human Resource Management at Herman Miller). These articles praise the success of Herman Miller's plan and the company's overall approach to labor relations and employee treatment; 'HMI has always been a values-driven company, with a historical reputation for innovation in its relationships with employees as well as in its products.'⁵⁸ This literature outlines in broad strokes the operations of the plan ('It consisted of three basic elements: a participation structure, a bonus system...and a communications process')⁵⁹ and makes the case that the plan was instrumental in Herman Miller's continued corporate and financial successes.⁶⁰

Herman Miller's Scanlon Plan

Herman Miller's Scanlon Plan was developed and implemented following CEO Hugh De Pree's attendance at a lecture given by Psychologist Dr. Carl Frost at the 1950 Grand Rapids Furniture Manufacturers Association.⁶¹ Impressed with Frost's outlook and approach to business relations, De Pree commissioned Frost to develop and implement a bespoke Scanlon-style system for Herman Miller.⁶²

Details of the particulars of Herman Miller's Scanlon plan can be reconstructed following study of archival materials. These details begin to illustrate that despite significant company rhetoric around cooperation and equality, in practice the company's Scanlon Plan followed a rigid and complicated hierarchy and process.

According to an undated overview of Herman Miller's Scanlon Plan new suggestions for alterations to production or corporate processes began with the identification of a problem or generation of an idea by a 'suggester'. The suggester was to complete a 'PSA form' and submit the completed form to 'the work team leader', alongside 'drawings, research, or other documentation.'

After submission of a completed form the 'work team leader' of the 'suggester' would review the suggestion 'for relevance and importance, and to see whether additional research' was needed. If the suggestion was deemed viable and appropriate, and was small, inexpensive, and feasible enough to implement on a local level, the 'work team leader' was empowered to authorize the suggestion. If the suggestion was deemed inappropriate or unnecessary, it could be rejected at this stage. If the suggestion was larger, more complicated, involved multiple teams or departments, or was more costly, the 'work team leader' was instructed to forward the suggestion to their own 'work team leader', 'work team leader 2'. 'Work team leader 2' could then either accept, deny, or pass along the proposed suggestion to their own work team leader, 'work team leader 3'. In turn, 'work team leader 3' could accept, deny, or

⁵⁸ Rodney McCowan, Ulli Bowen, Mark Huselid, and Brian Becker. "Strategic Human Resource Management at Herman Miller." *Human Resource Management* 38, no. 4 (1999): 303–8. Page 303.

⁵⁹ Judith Ramquist and Herman Miller. "Labor-Management Cooperation - The Scanlon Plan at Work." *Sloan Management Review* 3, no. 23 (1982): 49–55. Page 51.

⁶⁰ Wren, p. 31.

⁶¹ 'The Scanlon Plan at Herman Miller: A General Information Report on its Development, Description, and Impact' by Richard S. Ruch, September, 1975, PUBS4010 - Folder 76, Herman Miller Archives, Zeeland, Michigan and Barry, p. 110.

⁶² 'The Scanlon Plan at Herman Miller: A General Information Report on its Development, Description, and Impact', p. 110.

Frost remained a fixture at Herman Miller for the rest of his 40+ year career, becoming so much a part of the firm that a Carl Frost award was eventually created in his name, awarded yearly to the employee who had made the most robust or impactful productivity suggestions.

pass along the proposed suggestion to the 'suggestion council', and through the suggestion council the 'cost reduction department'.

Responses to employees regarding their suggestions seem to have taken a similarly circuitous route; through the 'responding council' and a 'responding work team' before arriving back in the hands of the initial suggester. A blank 'Scanlon Employee Suggestion' form, alongside several completed and returned forms identified in the Herman Miller archive corroborate the process outlined in the PSA System document, containing dedicated spaces for signoff from each of the four levels of approval a suggestion might require.

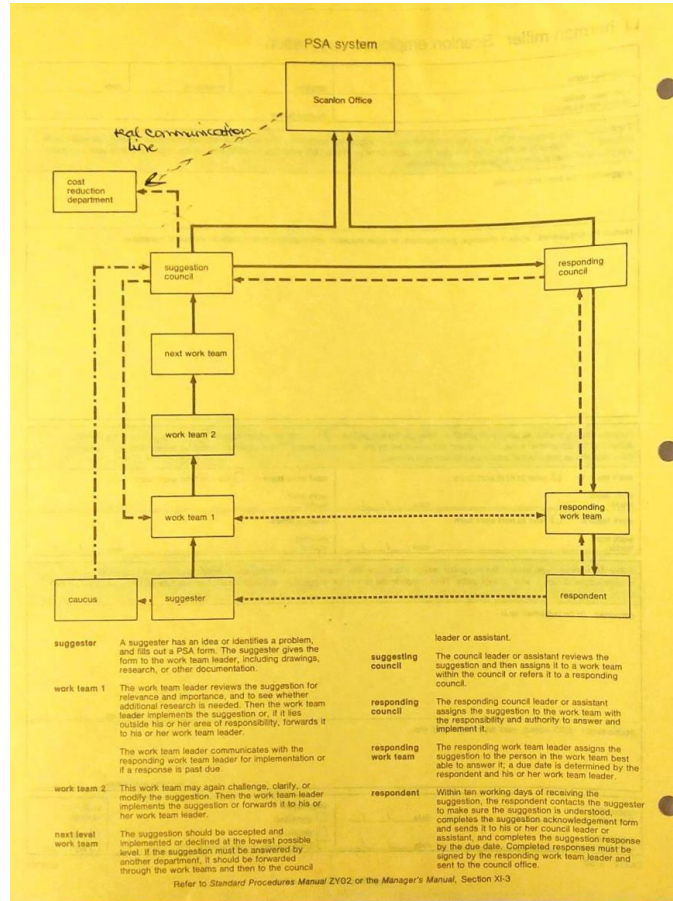


Figure 10 - Diagram illustrating suggestion review process at Herman Miller (PSA System). Image courtesy of Herman Miller Archive.

herman miller Scanlon employee suggestion

sugester name		location	extension	date
work team leader/ caucus representative		council leader		

Think about these questions to be sure you've considered your suggestion completely. Will your idea maintain or improve quality? Will workload be reduced or just shifted to another area? Will your idea cause other problems? Will your idea be safe? If you'd like help with writing your suggestion, ask your work team leader or department representative.

suggestion *be brief and concise*

reason for suggestion *include drawings, part numbers, or other important information—attach additional material if necessary*

Process this suggestion as quickly as possible. Although the suggestion might benefit from discussion of the entire work team, if a meeting is not scheduled for some time, it may be reviewed and forwarded by the work team leader. The suggestion should be reviewed by each work team for relevance and to see whether additional information is needed.

work team 1 <input type="checkbox"/> refer to next work team work team leader _____ date / /	next work team <input type="checkbox"/> refer to next work team work team leader _____ date / /
work team 2 <input type="checkbox"/> refer to next work team work team leader _____ date / /	council office referred council _____ date / /

Within 10 working days, contact the sugester, assign a due date with your work team leader, and complete and mail the suggestion acknowledgment form to your council office. Then complete the rest of the suggestion form by the assigned due date and return to your council office.

response *to be published as is*

due date / /

action taken *ECO issued, work order submitted, etc.*

implementation date / /

responding signature _____ date / / responding work team leader _____ date / /	suggestion <input type="checkbox"/> accepted <input type="checkbox"/> declined <input type="checkbox"/> timing wrong, review again / /	cost savings <input type="checkbox"/> yes <input type="checkbox"/> no
---	--	--

ZA312 8/83 8306 201

Suggesting work team after response

Figure 11 - Scanlon Employee Suggestion form. Image courtesy of Herman Miller Archive.

Herman Miller’s Plan vs. Traditional Scanlon Plans

While Herman Miller’s employee suggestion and profit-sharing program has become known as a ‘Scanlon Plan’, carrying some similar elements as the titular program, the company’s plan diverges from Joseph Scanlon’s original approach in several key areas: the degree of communication built into the system, the absence of unions or organized labor, and an operational understanding of labor relations as fundamentally peaceful.

Communication

While Scanlon set out to build a system and plan based around robust, open, and continual communication between employees and management, the Herman Miller profit sharing system functionally eliminated back-and-forth dialogue, replacing face to face interaction and exchange with a highly bureaucratized process. As detailed in the preceding section, the Herman Miller plan utilized forms and paperwork to communicate suggestions, rationales and responses, eliminating face-to-face interaction between management and employees.

Herman Miller's Scanlon Plan, through its bureaucratized structure and absence of human interaction and conversation, seems to have prioritized the *system* of soliciting and approving ideas over the ideas and workers themselves. In so doing, the company may have omitted elements of communication and collaboration so highly valued by Joseph Scanlon – the melding of minds between management and workers and exploration and negotiation of labor processes and corporate futures.

Peaceful Labor Relations

Joseph Scanlon's plans started from an 'underlying assumption that workplace relations should be defined as a conflict of interest between management and nonmanagement employees...'⁶³ Herman Miller's plan, however, appears to have been based around an assumption of harmonious relations between workers and management. While Scanlon designed his plan to bridge mutually exclusive interests of management and labor, *bringing about* a détente to initiate productive dialogue towards streamlining operations, Herman Miller conceptualized and implemented their plan *assuming such a détente already existed*, aiming to leverage this positive worker-management relationship to improve an already adequate production processes.

'The Scanlon Plan at Herman Miller', a company-commissioned report detailing the history of Herman Miller's plan explicitly lays out the company's belief in their own agreeable labor relations. Unlike 'a typical non-Scanlon organization, where 'productivity and payroll are...viewed as diametrically opposed phenomena' and where 'The individual worker seeks to maximize the payroll at the expense of production, while the organization seeks to maximize production at the expense of payroll' at Herman Miller, 'all members of the organization seek to optimized the ratio of payroll to production' and 'objectives of the individual and the organization are...integrated.'⁶⁴ It follows that Herman Miller's Scanlon plan was established not to reinvent or alter the relationships and power dynamics of the company, but rather to allow the already existing 'human system' of the organization to become more productive – to amplify already extant good practices and behaviors.⁶⁵ The scaffolding of the plan simply put into motion the 'mutual expectations' of all ranks of Herman Miller employees, who had already signed on to a 'psychological contact between individual and organization.'⁶⁶

No Unions

⁶³ Collins, p. 25.

⁶⁴ 'The Scanlon Plan at Herman Miller: A General Information Report on its Development, Description, and Impact', p. 49.

⁶⁵ 'The Scanlon Plan at Herman Miller: A General Information Report on its Development, Description, and Impact', p. 3.

⁶⁶ 'The Scanlon Plan at Herman Miller: A General Information Report on its Development, Description, and Impact', p. 15.

Herman Miller's Scanlon Plan is also notable for the absence of union participation in the process of soliciting, evaluating, and implementing employee suggestions, as well as in the calculation or dispersal of profits.

Herman Miller was, and remains, a non-union company. In his exploration of the company Ralph Caplan cites varying degrees of anti-union sentiment from the statement of an employee that 'Herman Miller Employees would never stand for a union' to the assertion of CEO DJ De Pree that '...we can get along without a union...'⁶⁷ Furthermore, it was generally understood not only that the company did not desire or need organized labor, but that 'Scanlon is actually the equivalent of a union' or '...is far superior to any union in benefits.'⁶⁸

Absence of organized labor within conception and implementation of the plan can be seen as being in opposition to the texture and operations of Scanlon's initial plans, and his belief and understanding that unions were necessary to represent nonmanagement employee's interests within his plans.⁶⁹ Not only did Scanlon's plans assign a leading role to unions in the practical application of his plans, but the plan itself also emerged from Scanlon's own role within union leadership, illustrating the core role which organized labor played both the in execution of a Scanlon plan and in the intellectual conception of the forces and factors behind the plan's potential success.⁷⁰

Addressing the Contradictions

Differences between Herman Miller's gainsharing plan and those conceptualized by Joseph Scanlon illuminate the company's conceptions of labor relations. These understandings are important as they formed the intellectual and ideological basis and starting point for the creation of the company's interventions within white collar workplaces, most notably the Action Office system. In turn, this information helps address the contradictory nature of the relationship between the idealistic intentions behind Action Office's creation and the system's eventual dismal effects on the white-collar workplace. A robust understanding of the ideological framework of Action Office begins to explain why the possibility of Action Office's misuse went completely unseen and unpredicted by Propst and the wider team at Herman Miller; the product was rooted in conceptions and assumptions of labor, labor relations, and work which simply did and do not match the reality of labor within our socioeconomic system.

This incongruity between the ideological underpinnings of Action Office and the reality of work and labor within capitalism is clarified by application of Labor Process theory and the works of authors such as Harry Braverman.

⁶⁷ Caplan, p. 116-7.

⁶⁸ Caplan, p. 116-7.

⁶⁹ Collins, p. 25.

⁷⁰ While Scanlon was willing for his plans to be implemented in non-union companies, he did not picture his plans as replacements for organized labor; Scanlon refused to work with companies he suspected of trying to subvert or prevent unionization. Collins, p. 22-5 and Wren, p. 30.

Labor Process Theory is a Marxist strain of socio-political thought which argues that capitalist control over the circumstances and practices of labor is a necessary part of the contemporary capitalist system. The theory posits that when companies began paying employees by the hour, day, or week instead of per piece of work completed, a crisis was created within capitalism.⁷¹ This crisis meant companies could no longer be assured they were getting more value out of their workers than what they were paying each individual laborer.⁷² Because under wage labor conditions workers are paid regardless of how much work is achieved, company management necessitated a mechanism which would ensure that workers were completing at least enough work to cover the cost of their wages, and ideally enough work to generate profit for the company.⁷³ Labor process theorists suggest that such a mechanism is control by capitalists and company management over the way work itself is done – over the process of doing labor.⁷⁴ By controlling how work is done, companies could be assured that a base line of productivity and profit was achieved.⁷⁵ This need, according to many labor process theorists, exists across the spectrum of workplaces and work types – in both the factory and the office, wherever workers were paid salaries and pay was divorced from specific productive tasks.⁷⁶ In short, Labor Process scholars have theorized that much of the experience of modern work is characterized by a fundamental need for capital to control the labor process itself; the way individual tasks are accomplished.⁷⁷

When seen within the lens of Capital's need for control, Action Office could never have functioned the way Propst had hoped. Workers could not be allowed to shape, mold, and rearrange their own spaces with a variety of interchangeable parts; this was a power which could *only* be assigned to management. What to Propst was misuse, a twisting of the principles and possibilities of Action Office by individually flawed managers, can alternatively be viewed as the natural implementation of modular office furniture systems within capitalism – implemented and modified to extract maximum labor value out of employees and engineered to preserve a visible and palpable hierarchy of labor relations within each workspace. While Propst had envisioned Action Office products being used across the corporate hierarchy,⁷⁸ companies adopting Action Office knockoffs ghettoized the system, retaining private offices for management. Partitions, added to the Action Office system by Propst to provide flexibility, were heightened, drained of color, and bolted into fixed positions by facilities managers.

Further, his assumption of peaceful labor relations within the white collar workspace, Propst assumed that management, as a rule, would treat employees fairly, with dignity and with respect, implementing his designs in ways which were in line with the wishes of workers and with their best interests at heart. But, as has been well-studied by the fields of sociology and labor studies (among other disciplines),

⁷¹ Braverman, pp 57-8.

⁷² Braverman, pp 57-8.

⁷³ Braverman, pp. 58-67.

⁷⁴ Braverman highlights this concept in characteristically powerful language: 'Like a rider who uses reins, bridle, spurs, carrot, whip, and training from birth to impose his will, the capitalist strives, through management, to control.' Braverman, p. 68.

⁷⁵ Braverman, p. 68.

⁷⁶ Braverman, p. 325-6.

⁷⁷ Braverman, pp. 54-7 and p. 206.

⁷⁸ Illustrated in the promotional images included in this case study, as well as additional materials focusing on the Executive Action Office range – a set of Action Office products finished with more premium materials and visually aping preceding eras of management furniture with wood and chrome finishes.

workers and management within capitalism have intrinsically and fundamentally opposing interests.⁷⁹ Capital and capitalists are locked into a never-ending quest for ever-increasing profit, which, according to Karl Marx, can only be generated by syphoning more and more value from the labor of workers.⁸⁰ While capitalists seek to further their own interests by forcing their employees to work harder, faster, or more 'efficiently', workers seek to protect themselves and their labor, producing only the work for which they are being fairly paid.⁸¹ Management, within this understanding, is not only unlikely to implement designs or strategies which align with the needs and wants of workers, they are *unable* to do so.

Through their need to extract labor, through their need to preserve hierarchical labor relations within the workplace, and through attempts to navigate fundamentally acrimonious workplace labor relations, corporate representatives saw in Action Office possibilities which Propst, blinded by his (incorrect) utopian vision for the office, was unable to imagine.

Conclusion

The contradictory nature of the relationship between the idea of Action Office and the system's reality for the many workers placed within the system's walls and sat at its desks in many ways mirrors the wider trajectory of the mid-century office writ large; beautifully designed and artistically executed spaces praised by corporate management and the design press, yet not quite as well appreciated by their proletarian users. This is due, in large part to the midcentury ideas utilized not only by Herman Miller and Robert Propst, but by many architects, designers, management theoreticians, and corporate leaders of the time – ideas of industrial peace, shared interests, and belief and reliance in incomprehensive and methodologically unsound research cyclically bolstering pre-existing beliefs.

Creation and dissemination of designs in this vein during the midcentury set the trajectory of office spaces down a path which both normalized and institutionalized assumptions surrounding work and labor and particular designs which did not match reality and did not work as intended within real spaces. Widespread acceptance of mid-century office ideologies and designs have in many ways led to the makeup and nature of the contemporary office, dominated by the open office layout and a persistent lack of privacy. These designs persist despite continued protest and mounting evidence both that workers do not like their office spaces, nor are these office spaces particularly effective.

This paper has highlighted the importance of investigation of labor processes, relations, and ideologies undertaken in parallel with spaces, designs, and buildings resulting from such ideas; of critically analyzing both the physical space of the office *and* the economic and socio-political frameworks which motivate and underly these spaces. Similar critical interventions into office historiography remain critically necessary both for the history of the office to be accurately written, and for the future trajectory of office spaces to be changed for the better.

⁷⁹ This line of thought begins in Karl Marx's *Capital*, and runs through more recent volumes including Michael Burawoy's *Manufacturing Consent* (1974), Andrew Friedman's *Industry and Labour* (1977), Paul Baran and Paul Sweezy's *Monopoly Capital* (1989) among many other works.

⁸⁰ Karl Marx. 'Wage Labour and Capital', Lecture delivered December 1847. Available at <https://www.marxists.org/archive/marx/works/download/pdf/wage-labour-capital.pdf>.

⁸¹ Marx.

List of Images

Figure 1 - Image from a 1979 Herman Miller brochure titled 'Managing the Work Environment'. Image courtesy of Herman Miller Archive.

Figure 2 - Table of case study references made in office literature

Figure 3 - Herman Miller Research Corporation Organizational Chart. Image courtesy of Herman Miller Archive.

Figure 4 - Expanded Herman Miller Research Corporation Organization Chart, including job duties. Image courtesy of Herman Miller Archive.

Figure 5 - Drawing of potential Action Office 1 implementation including standing desk, chalkboard, Eames office chair, bookshelves, and side table. Image courtesy of Herman Miller Archive.

Figure 6 - Secretary Work Area, as depicted in a Herman Miller promotional brochure. Image courtesy of Herman Miller Archive.

Figure 7 - Clerical Work Area, depicted in a Herman Miller promotional brochure. Image courtesy of Herman Miller Archive.

Figure 8 - Supervisor Work Area, depicted in a Herman Miller promotional brochure. Image courtesy of Herman Miller Archive.

Figure 9 - Director Work Area, depicted in a Herman Miller promotional brochure. Image courtesy of Herman Miller Archive.

Figure 10 - Diagram illustrating suggestion review process at Herman Miller (PSA System). Image courtesy of Herman Miller Archive.

Figure 11 - Scanlon Employee Suggestion form. Image courtesy of Herman Miller Archive.

Works Referenced

Archival Sources

Action Office II User List, April 1973, 2.P.2.5.10, Herman Miller Archives, Zeeland Michigan.

'An introduction to your Action Office environment' brochure, HMI Promo VH1501 – 60, Herman Miller Archives, Zeeland, Michigan.

Hand drawn organization chart and responsibilities, April 1972, Accession - 3 Propst Docs - Folder 20, Herman Miller Archives, Zeeland, Michigan.

Herman Miller Inc. Research Division Statement, June 1, 1962, Accession 3 - Misc Propst Docs – Folder 3, Herman Miller Archives, Zeeland, Michigan.

Personnel file for Robert Propst, n.d., Accession 3 – Misc Propst Docs – Folder 19, Herman Miller Archives, Zeeland, Michigan.

'Productivity – A National Problem' speech by Hugh de Pree, April 24, 1975, Accession 3 – Hugh de Pree Talks – Folder 35 – Part 2, Herman Miller Archives, Zeeland, Michigan.

Propst Planning Team, page 2, n.d. Accession 3 – Folder 20, Herman Miller Archives, Zeeland, Michigan.

Talk for Action Office Press Party by Hugh de Pree, November 16, 1964, Accession 3 - Folder 35, Herman Miller Archives, Zeeland, Michigan.

'The influence of behavioral sciences on office design' by Robert Propst, Accession 2010.83 – Box 42 – Action Office addendum – Action Office, undated, Henry Ford Museum Archives, Dearborn, Michigan.

'The Scanlon Plan at Herman Miller: A General Information Report on its Development, Description, and Impact' by Richard S. Ruch, September, 1975, PUBS4010 - Folder 76, Herman Miller Archives, Zeeland, Michigan and Barry.

Secondary Sources

Abercrombie, Stanley. *George Nelson: The Design of Modern Design*. Cambridge: MIT Press, 2000.

Berry, John R. *Herman Miller: The Purpose of Design*. New York: Rizzoli, 2004.

Braverman, Harry. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. London: Monthly Review Press, 1974.

Caplan, Ralph. *The Design of Herman Miller: Pioneered by Eames, Girard, Nelson, Propst, Rohde*. New York: Whitney Library of Design, 1976.

Collins, Denis. *Gainsharing and Power? Lessons from Six Scanlon Plans*. Ithaca: Cornell University Press, 1998.

Forty, Adrian. *Objects of Desire: Design and Society 1750-1980*. 3rd ed. London: Thames and Hudson, 1989.

Haigh, Gideon. *The Office: A Hardworking History*. Melbourne: Miegunyah Press, 2012.

Herman Miller. "Company Timeline." Accessed September 25, 2023. Available at https://www.hermanmiller.com/en_gb/about/timeline/.

Herman Miller. "Herman Miller Completes Acquisition of Knoll," July 19, 2021. Accessed September 25, 2023. Available at https://www.hermanmiller.com/en_gb/press/press-releases/herman-miller-completes-acquisition-of-knoll/.

Kaufmann-Buhler, Jennifer. "Progressive Partitions: The Promises and Problems of the American Open Plan Office." *Design and Culture* 8, no. 2 (2016): 205–33. <https://doi.org/10.1080/17547075.2016.1189308>.

Liming, Sheila. *Office*. Object Lessons. New York: Bloomsbury Academic, 2020.

Marx, Karl. 'Wage Labour and Capital', Lecture delivered December 1847. Available at <https://www.marxists.org/archive/marx/works/download/pdf/wage-labour-capital.pdf>.

McCowan, Rodney, Ulli Bowen, Mark Huselid, and Brian Becker. "Strategic Human Resource Management at Herman Miller." *Human Resource Management* 38, no. 4 (1999): 303–8. [https://doi.org/10.1002/\(sici\)1099-050x\(199924\)38:4<;303::aid-hrm3>3.0.co;2-z](https://doi.org/10.1002/(sici)1099-050x(199924)38:4<;303::aid-hrm3>3.0.co;2-z).

Merced, Michael J. de la. "Design Within Reach Merger Never Happened, Lawsuit Claims." *New York Times*, June 6, 2016. <https://www.nytimes.com/2016/06/08/business/dealbook/design-within-reach-merger-never-happened-lawsuit-claims.html>.

Murphy, Michelle. *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers*. Durham: Duke University Press, 2006.

Propst, Robert. *The Office: A Facility Based on Change*. Herman Miller, 1968.

Ramquist, Judith, and Herman Miller. "Labor-Management Cooperation - The Scanlon Plan at Work." *Sloan Management Review* 3, no. 23 (1982): 49–55.

Ransmeier, Leon. "LIVE ACTION: Inventor Robert Propst and the History of the Modern Cubicle." *Pin-Up*. Accessed September 25, 2023. <https://archive.pinupmagazine.org/articles/the-story-of-action-office-2-and-cubicle-inventor-robert-propst-herman-miller>.

Saval, Nikil. "The Cubicle You Call Hell Was Designed to Set You Free." *Wired*, April 23, 2014. <https://www.wired.com/2014/04/how-offices-accidentally-became-hellish-cubicle-farms/>.

Saval, Nikil. *Cubed*. New York: Random House, 2014.

Wren, Daniel. "Joseph N. Scanlon: The Man and the Plan." *Journal of Management History* 15, no. 1 (2009): 20–37. <https://doi.org/10.1108/17511340910921763>.

Appendix 1 - Case studies utilized in key office history literature.

	Duffy, the new office	Saval, Cubed	van Meel, The European Office	Forty, Objects of Desire	Liming, Office	Kaufmann-Buhler, Open Plan	Haigh, The Office	Caruso St John, Office on the Grass	Kuo, A-Typical Plan
ABN AMRO Headquarters		x	x						
Action Office		x		x	x	x	x	x	
Aeron Chair		x							
Amazon Seattle					x				
Andersen Worldwide	x								
AT&T Building		x							
Banca Popolare di Lodi			x						
Bell Labs		x							
Benevis	x								
Bertelsmann			x						
Boisjean Cascade Home Office (SOM)									x
British Airways - Compass Centre	x		x						
British Telecom - Stockley Park	x		x				x		
Broadgate	x								
BuroLandschaft		x		x		x	x		
Canary Warf	x						x		
Canon Swedish Headquarters			x						
Casa del Fascio									x
Central Beheer	x		x	x			x	x	x
Centre Point									
Channel 4	x								
Chase-Manhattan Bank								x	
Chiat/Day NYC	x	x				x		x	
Chicago Loop		x					x		
Chrysler Building	x		x						
CIGNA/Connecticut General	x	x						x	
Coca Cola Italia			x						
Commerzbank			x						
Communication Center									x
Cubicle/Dilbert		x			x	x	x	x	
Digital Equipment	x								
DuPont Freon Division						x	x		
Economist Building									x
Edging	x		x						
Empire State Building	x		x						
Erikszon Stockholm			x						
Ernst & Young Chicago						x			
Facebook HQ						x		x	
Ford Foundation	x							x	x
GitHub		x							
Googleplex (Mountainview)		x			x			x	
Gruner + Jahr	x		x					x	
Haworth						x			
Herman Miller		x						x	
Hille office desk range				x					
HSBC Headquarters									x
IBM Bedford Lakes	x								
IBM Segrate Italy				x					
IBM Stockholm			x						
Imagination	x								
ING headquarters	x		x						
Interpolis		x	x						
Johnson Wax	x				x	x	x	x	
Kajima - Ki	x								
Kanagawa Institute of Technology									
Workshop									x
Kastor Tower			x						
KLM Headquarters			x						
Knoll Planning Unit								x	
Larkin Administration Building	x	x	x		x		x	x	x
Lend Lease Interiors	x								
Lever House		x	x				x		
Liverpool Echo Offices				x					
Lloyd's of London	x		x				x	x	x
Lloyds TSB Bristol			x						
McDonald's Italia			x						
McDonalds Oak Brook						x			
Met Life Building		x							
Michaelides & Bednash	x								
Midsvale Steel Works		x							
Mill Owner's Association Building (Corbu in CDGH)									x
Ministry of National Education (Prouve)									x
Modern Efficiency Desk				x					
Nickelodeon	x								
NMB Headquarters			x						
Olivetti			x						
One Canada Square Tower			x						
Palazzo Serbelloni			x						
Pan Am Building							x		
Pirelli Tower			x				x		
Purdue University Freehafer Hall						x			
RCA Building							x		
Rembrandt Tower			x						
Rijksgebouwendienst	x								
Rookery Building									x
SAS headquarters	x		x			x	x	x	
Schiphol Airport Office			x						
Seagram	x	x	x				x	x	
Sears/Wills Tower							x		
Sendal Mediatheque									x
Sharp	x								
Steelcase	x	x			x		x	x	
Sun Micro	x								
TBWA/Chiat/Day LA		x			x				
Thule Huset Headquarters			x						
TNT Traco			x						
Union Carbide			x						
Villa VPRO									x
Virta	x								
Volvo Toroslada			x						
Wainwright Building							x		
Willis Faber & Dumas			x						x
Xerox PARC									
Zofveerein School of Management and Design							x		x