

Visual Essay

## In Praise of Cybernetics: Office Landscaping and the (Self-)Conditioning of Workers

Andreas Rumpfhuber

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Nimm dir einen Regelkreis  
und tu dich mittenrein  
Schnell erhältst du den Beweis  
besser kann die Welt nicht sein.  
(Freiwillige Selbstkontrolle, *Lob der Kybernetik*, 1984)

*Praise of Cybernetics*, a song by German avant-garde band F.S.K. (*Freiwillige Selbstkontrolle*) first performed in 1984, plays with the German cliché of thoroughness and its obsession with technology. The song is a telling account of what can be called self-conditioning through reason: 'Take a control-circuit and put yourself right into it. Swiftly you have the proof, a better world cannot be', as a jolty translation of the refrain reads. 'Games are for play', so the song starts. 'Yet life is *one* algebra, and is solved through reason'. The idiosyncratic use of the indefinite singular article here defines Algebra as a thing, an object. It no longer literally means the reunion of broken parts, it is no longer the study of equations and relations in their multiplicity. Multiplicity is metaphorically reduced to one equation and to one relation: the control-circuit of cybernetics, to which subjects voluntarily subordinate themselves in order to realise how good life is. The song narrates surreal and dreary life-situations of people with cliché German names like Edgar, Heinz, Senta or Horst, balancing self-determination and self-control in the search for a better world.

The song came out in 1984, at a time when political figures like Ronald Reagan and Margaret Thatcher, but also German chancellor Helmut Kohl just came into power, signifying what is commonly referred to as a new political and economic regime, circumscribed as neoliberal, consumerist, and informatic. Yet, the coming to power of such political figures was merely an interim symbolic culmination of an ongoing process of alteration and restructuring of Western industrialised societies from disciplinary societies towards societies of control: a process that needs to be traced to the immediate Post-War years and can be witnessed today in its full extent. The emergence of such a new, pervasive regime, able to organise and govern society at large, can be attributed neither to a single political ideology, nor to a specific cultural shift. However, the development of new technologies and their accompanying logics did have a significant impact on this process, as the rise of cybernetics can be seen as a fundamental factor in the construction of new forms of social control highlighted by the song.

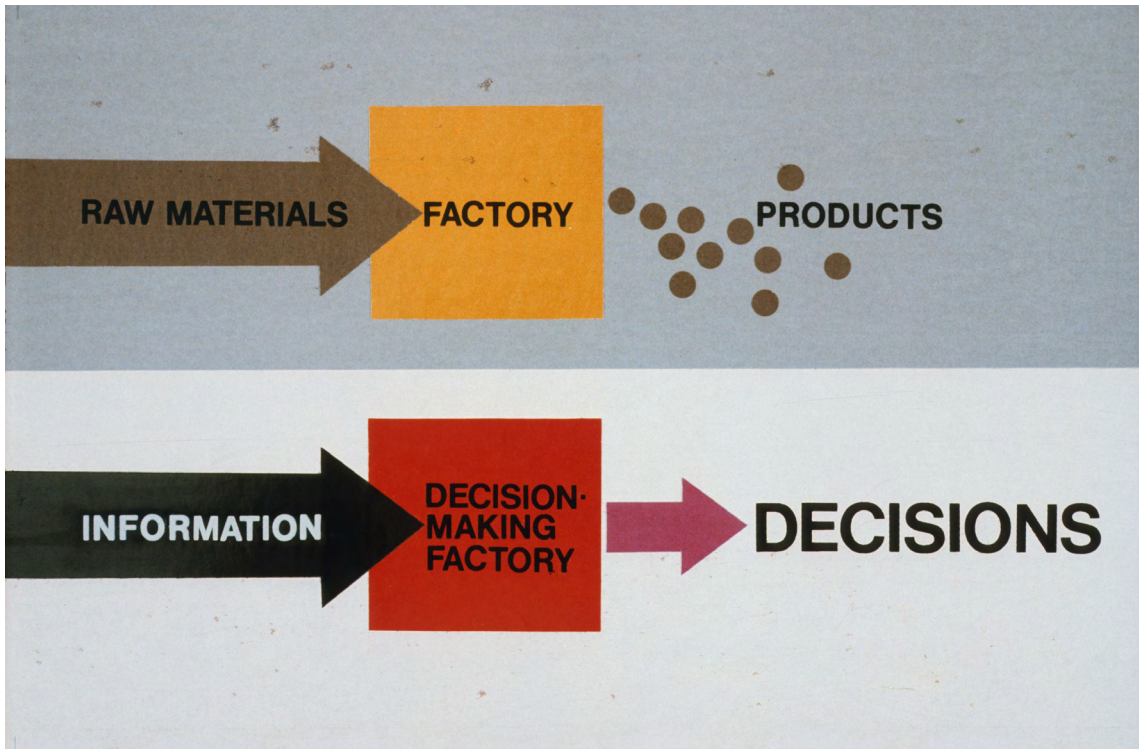
#### Diagrams

##### Decision Making Factory

The Quickborner Team understood the office to be a factory for decisions (administering the production and distribution of goods), that ultimately led to an altered form of organisation. Quickborner Team USA, Decision Making Factory, slide, ca. 1967.

##### Simultaneous Evaluation

Quickborner Team's planning methodology aimed to evaluate and quantify as many aspects of an administration as possible. The key focus of the analytic phase of a given organisation was information flow within an organisation and its interfaces with the outside world. Members of the QT literally would accompany co-workers of an organisation and note each communication and interaction with other workers and clients. Quickborner Team USA, Simultaneous Evaluation, slide, ca. 1967.



Cybernetics, in its formative years following World War II, proved very attractive to the political left.<sup>1</sup> Its hypothesis promised a new form of governance that could overcome despotic and hierarchic authority and finally free humans from tedious labour through the implementation of flat hierarchies, or the introduction of digital machines, known today as computers. Soon, a popular strand of cybernetic thought, obsessed with information flow in machines and biological systems, permeated and influenced numerous disciplines, also entered the architectural discourse.<sup>2</sup>

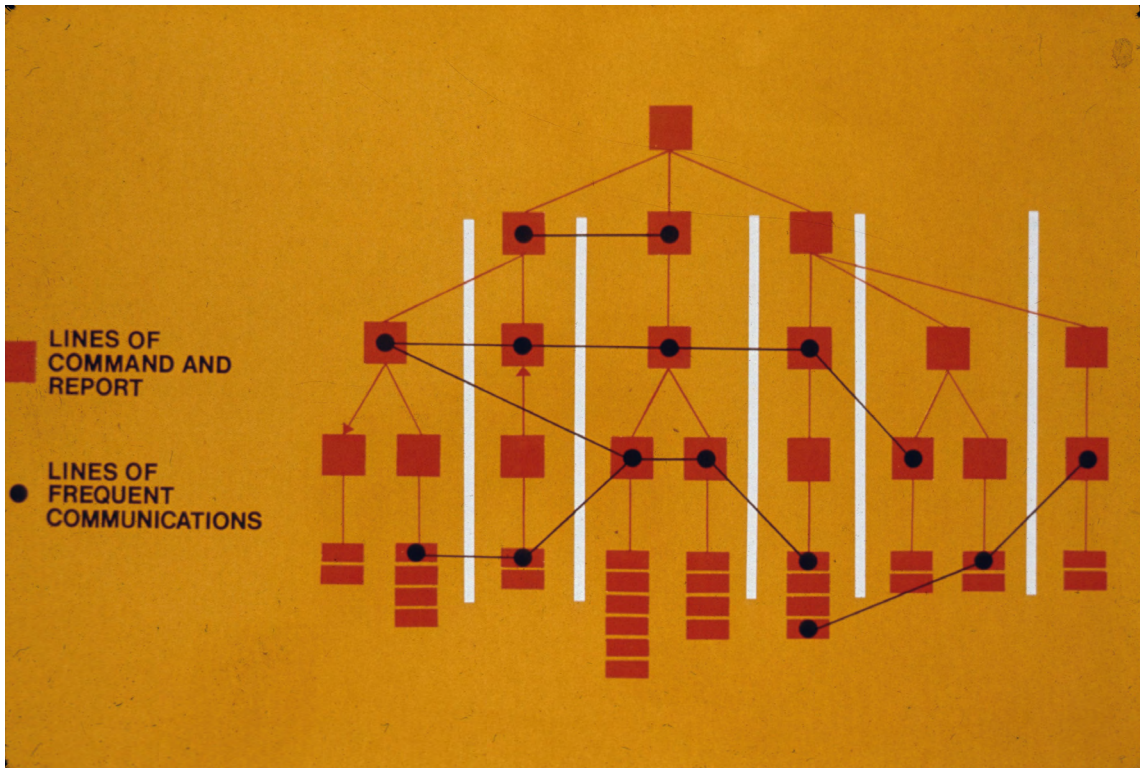
One spatial application of cybernetic principles that was less explored by architectural historians, is Bürolandschaft (office landscape). Bürolandschaft was invented by Eberhard and Wolfgang Schnelle, two German management consultants, and their transdisciplinary team of mathematicians, information scientists, artists, and initially without architects.<sup>3</sup> From its founding moment in 1956 the so-called Quickborner Team (QT) was engaged in developing what they would call a scientific design methodology to optimise administrative organisations. *Organisationskybernetik* (cybernetics of organisation), as they initially called their method, was the foundation for the design of a series of office landscapes between 1959 and the late 1960s, and would later include the spatio-organisational concept for the Federal Chancellery of Germany in

#### Evaluation Hierarchies

Through participant analysis of information flow the Quickborner Team would compare (in various ways, sometime spatially, sometimes organisationally) a traditional hierarchic organisation and its line of command with the actual information flow within an organisation. This helped them to establish what they had in mind: a flat hierarchy for decision-making. Quickborner Team USA, Command vs. Communication slide, ca. 1967.

#### Participatory Design

The design process involved, beyond members of the Quickborner Team, other specialists such as architects or lighting experts and top management, but also representatives of different existing work groups staffing the organisation. That kind of participation guaranteed on the one hand that knowledge about the needs of workers could be incorporated into the design, but also the minimisation of potential opposition to what was being planned. Quickborner Team USA, Design Process, slide, ca. 1967.



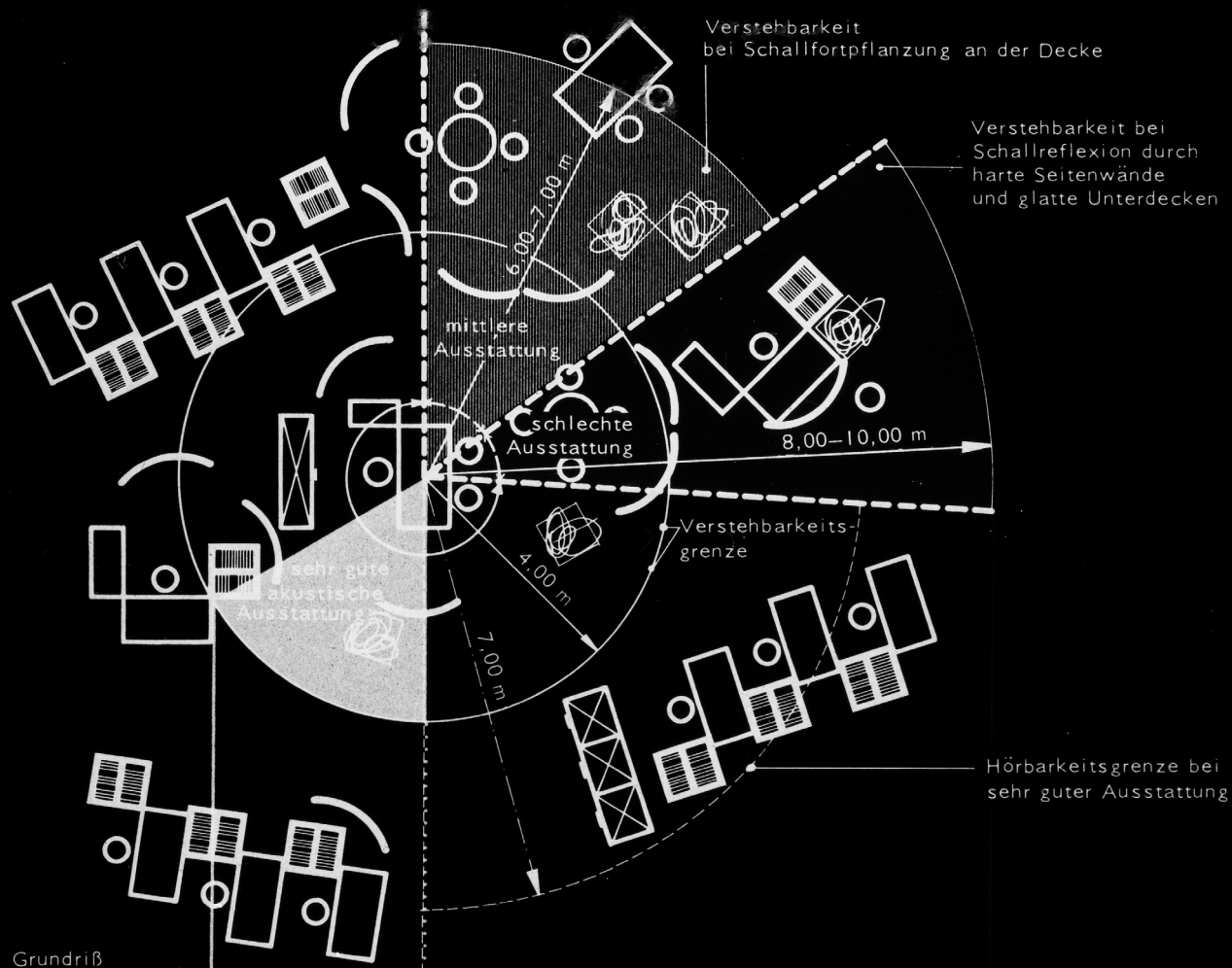
Bonn and Hans Scharoun's infamous state library in Berlin.<sup>4</sup> Their method for administrative organisations was based on the meticulous quantification of all aspects within an organisation, putting an emphasis on information flow through participant analysis and counting interactions, like phone calls and meetings. The design process included the participation of representatives of a given organisation, and aimed to optimise information flow. Following the popular promise of cybernetics to render all men redundant in the work process, QT's explicit goal was to fully automate all work-processes and to free all workers from tedious labour and to dismiss them into everlasting leisure.<sup>5</sup> QT would even go so far as to predict that office space would become redundant in the future, and its two founding members, Wolfgang and Eberhard Schnelle, subsequently left QT in the early 1970s, establishing Metaplan, a consultancy firm specialised in applying their methodology on a broader scale not limited to office design.

To Eberhard Schnelle, cybernetics was an emancipatory conceptual model that had the potential to transform the heteronomy of labour into the autonomy of every singular human being. By overcoming imposed moral standards such as honour, duty, loyalty, and diligence, that are 'in the position to exact performance from the lower ranks without the return of any material value'<sup>6</sup>, Schnelle argues, a new pragmatic and goal-oriented society could be constructed, with the 'aim of making the entire system more creative, in other words more rapidly adaptable and more capable of learning'.<sup>7</sup>

#### Organisational Diagrams

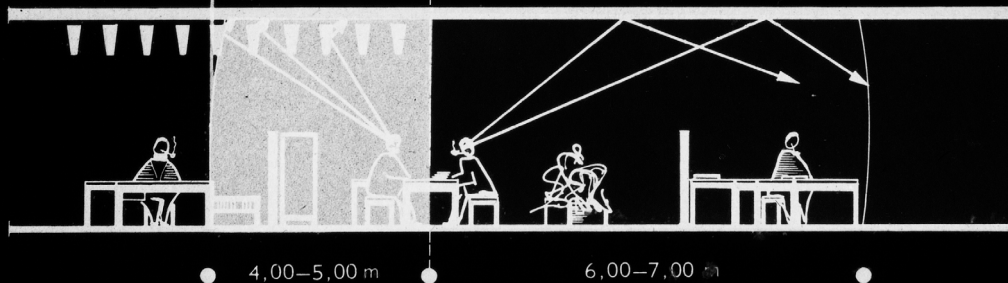
#### Acoustics

In addition to the Quickborner Team's analysis of information flow, they produced a series of detailed manuals for the design and organisation of office landscapes. Quickborner Team: Acoustic Fittings, slide, ca. 1963.



Keine Schallfortpflanzung

Schallfortpflanzung



Schnitt

Verstehbarkeit von Gesprächen in Abhängigkeit von der akustischen Ausstattung

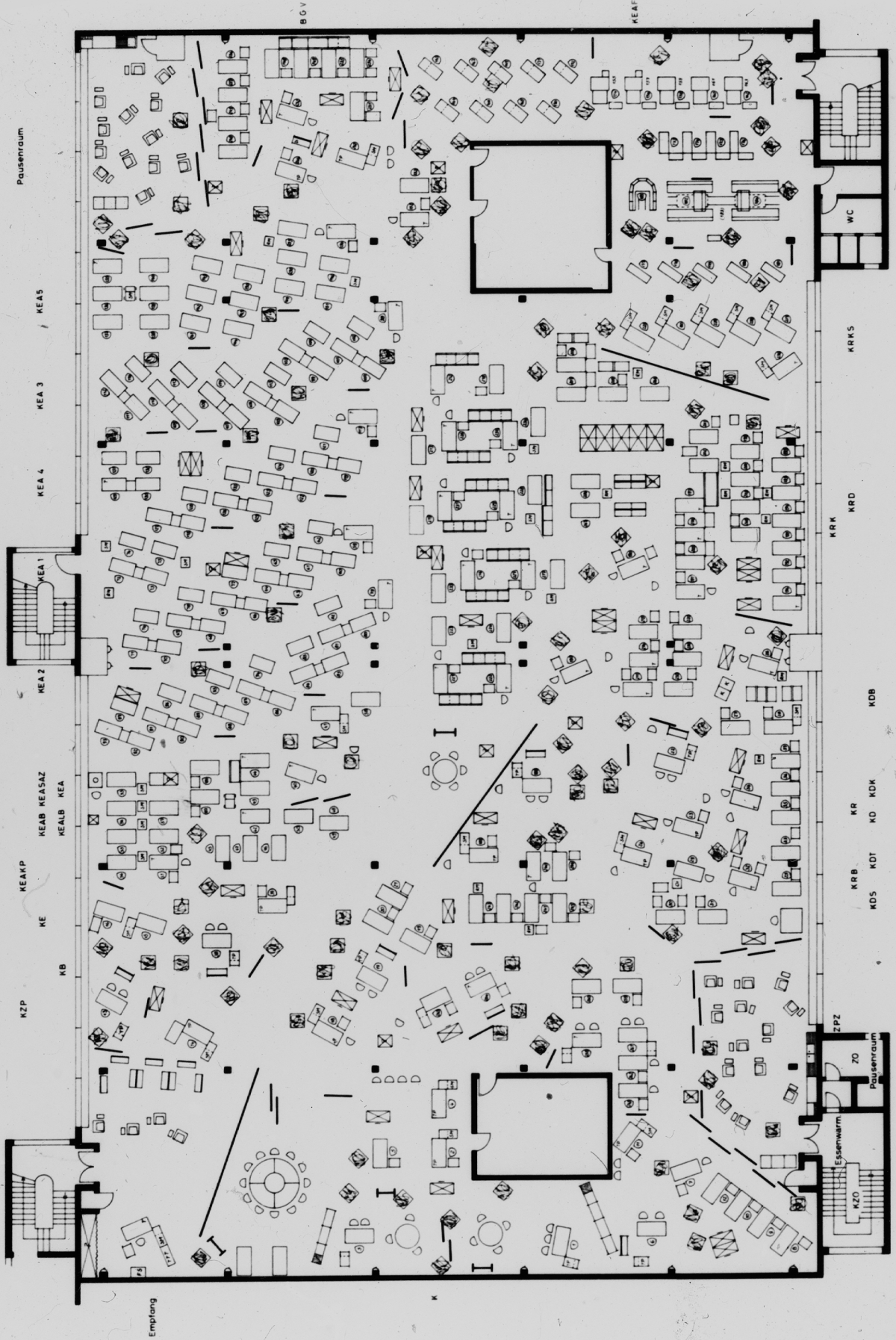
Bürolandschaft designs explicate this idea of a creative and potentially rapidly and constantly adaptable organisation and space. On the one hand, it is the very organisation of administrative work itself that was aimed at fostering creativity, understood as the active participation of all workers in finding solutions for a problem, and the adaptability, or learnability, of the organisation in relation to feedback from within and from outside of the organisation. It was QT's conviction that there is enough knowledge and creative potential within a given organisation to deal with and master any complex problem, indeed aiming to establish a workers' community where everybody had the same rights and obligations. Hence, the idea was to confer everyone within the organisation the same freedom and the same equal status within the decision making process, in order to make available that very knowledge. The only limitation to the granted freedom was the 'restraint to cooperate'.<sup>8</sup> In that sense, the organisation of office landscapes considered all co-workers on the same hierarchical level, be it the owner, a group-leader, or someone only assisting in a work process. An important asset of office landscapes' organisation of work was the introduction of calculating machines, like punch-card apparatuses in the late 1950s, that took over repetitive work, considered tedious. In the QT rhetoric, co-workers were addressed as experts, as scientists, and as creatives. They were no longer

#### Layout Buch und Ton

Office landscape layouts could easily be rearranged at any given time in relation to new parameters, be it the introduction of new technology, or the need for a different composition of teams within the organisation. The very first office landscape for the Bertelsmann mail-order business Buch und Ton was initially conceived as a temporary test space but then was operational for about ten years. Quickborner Team: Second adaption of Buch und Ton/Bertelsmann layout, Gütersloh. Slide, 1961.



BERTELSMANN DRUCKHAUS G.m.b.H. GUTERSLOH | ORGANISATION SCHNELLE HAMBURG ST 170661 M 1:100  
MOBILIARORDNUNG, 2. SKIZZE



mere workers to fulfil a task through disciplinary guidance, but were addressed as autonomous subjects, who had to take on responsibility and become pro-active in problem solving. All the workers had expertise, no matter what their task had been in the former work hierarchy. And it was important for the organisation's efficiency that this very knowledge be made available. At the same time, these autonomous human experts were incalculable entities for the cybernetic organisation. After all, the management would not know what and how an autonomous expert would decide in relation to a given problem, potentially even deciding against the given goal of the enterprise. Hence all experts were teamed up in small interrelated groups and bound to a normative decision-making process that involved consensual decision-making. Participation was crucial for the success of this form of organisation. Workers in that space, freed from the feeling that they were supervised by a gaffer, started to work from their own impulse, and at the same time would control other co-workers through defined participatory processes.

#### Spatial Experience

##### Buch und Ton

Buch und Ton was implemented on the top floor of a disused warehouse by the architect office Walter Henn, specialised in industrial architecture. The desks were specifically developed by the Quickborner Team. The space was the size of half a soccer pitch, with a ceiling-height of 2,9m. In full operation, with punch-card machinery distributed in the space, the noise level would equal driving a VW beetle built in 1950 at a speed of 50km/h. Quickborner Team: Buch und Ton/ Bertelsmann, Gütersloh, slide, 1959–60.



The design of the space itself allowed and fostered the permanent re-arrangement and adaption of the organisation. The seemingly endless, air-conditioned and artificially lit interior designs looked chaotic. Yet they were meticulously calculated, taking into account, for example, noise levels, sight lines, and team affiliations. The designs were set-theory-like temporary arrangements of custom-made, moveable furniture, partitioned by pot-plants and colourful shields, and included fully fitted break-rooms. As Kurd Alsleben, an early associate of QT, explained, the design intended to produce subjective spaces 'that were experienced by each individual from his respective position', in order to provide a somewhat intimate space for each worker within the vast, near-endless interior landscape.<sup>9</sup> Each worker was guaranteed an average overview or sightline of the total office landscape, achieved through the arrangement of tables and pot plants. Access to the individual work groups and the routes within the office landscape were marked by plants and were planned to never go directly through a work group. The orientation of the desks was programmed so that one was not looking directly at one's colleagues or 'forced' to observe one another. The spatial result aimed to afford privacy for each worker, as described in the QT's leaflet about its very first office landscape, Buch und Ton (1959–60):

#### GEG Interior

The office landscape for the not-for-profit corporation GEG's mail-order business included seven hundred co-workers in a new, single-storey, warehouse-like building, directly adjacent to the logistics centre. Quickborner Team: Gemeinnützige Einkaufsgenossenschaft GEG, Kamen, slide, 1966.



Thanks to the construction of the furnishings, a transparent and spacious effect is achieved. The *irregular rhythm* of the layout and the range of colours in the space divide up each close range for the perception, so that each of the many workspaces forms a subjective space affording privacy.<sup>10</sup>

The paradoxical formulation of an 'irregular rhythm', a rhythm that does not follow any symmetry or controlled movement, but instead is acyclic, quite aptly articulates QT's intended ambition. The visually 'irregular rhythm' lays claim to realising a bureaucratic apparatus without bureaucracy. And no matter how improbable this ambition is, Bürolandschaft designs were successful as inasmuch they created an atmosphere in which workers felt valuable, and, to paraphrase Praise of Cybernetics, happily put themselves into a control circuit, and stopped questioning the very given goals set by a now invisible management. It is notably the ever-adapting organisation of the space with its relational arrangement of human and digital workforce through quantified information flow that can be understood as an early forerunner of today's highly successful new business models based on big data and algorithms, aiming to potentially quantifying all aspects of human behaviour. Bürolandschaft's atmosphere lingers on in this new world full of ubiquitous computing. Further advancements in technology soon allowed the expansion of Bürolandschaft's logic beyond the limits of the office space, spilling out into the home, the city, and society at large.

#### GEG Break Room

In the office landscape designs, a strong emphasis was put on providing adequate break rooms. The participant analysis had shown that waiting at the copy machine, and having a break would be the most productive times for communicating with co-workers at the office. Quickborner Team: Break Room, Gemeinnützige Einkaufsgenossenschaft GEG, Kamen, slide, 1966.



## Notes

- All images courtesy of Bürolandschaft Archive, Andreas Rumpfhuber.
1. A significant example for the political reading of cybernetics in relation to architecture is the formative years of German architecture magazine *ARCH+*. See Jesko Fezer, 'Politik-Kybernetik, Arch+, die Studenten und die IG Bau Steine Erden zwischen 1967 und 1977', *ARCH+ 186/187* (2008): 95–105.
  2. For example, Yona Friedman's diagrams on the organisation of society, or Cedric Price's Fun Palace are based on cybernetic principles. But projects by Archigram or Haus-Rucker-Co also mirrored cybernetic ideas of a new society.
  3. Ottmar Gottschalk, an architect and initially a co-worker of Henn architects, who was responsible for the execution of construction work on site of the very first office landscape realised in 1959–60, only became a member of the team later.
  4. Compare Merle Ziegler: *Kybernetisch regieren. Architektur des Bonner Bundeskanzleramtes 1969–1976* (Droste Verlag: Düsseldorf, 2016), 51–56.
  5. As, for example, expressed by Constant Nieuwenhuys: 'The City of the Future: Betty van Garrel and Rem Koolhaas Talk with Constant about New Babylon', in *Exit Utopia: Architectural Provocations 1956–76*, ed. Martin van Schaik, Otakar Mácel (Munich, Berlin, London, New York: Prestel, 2005), 10–12. Here p. 10, Originally published in: *Haagse Post*, 6 August 1966.
  6. Eberhard Schnelle, 'Organisationskybernetik', in *Kommunikation 1* (September 1965): 19. Verlag Schnelle, Quickborn, pp. 1–26, here: p. 19. My own translation.
  7. *Ibid.*, 16
  8. Peter W. Tügel, 'Portrait 3: Quickborner Team, Gesellschaft für Planung und Organisation mbH', in *Arch+ 2* (April 1968): pp. 9–13, here: p. 10.
  9. Kurd Alsleben, 'Bürolandschaft und ihre subjektiven Räume' in: *Kommunikation 11* (1965): 77.
  10. Brochure 'Beschreibung der Bürolandschaft des Hauses Bertelsmann in der Firma Kommissionshaus *Buch und Ton*', no further information available in the Quickborner Team archives. My emphasis.

## Biography

Andreas Rumpfhuber is an architect and theoretician, focusing on new forms of labour and housing. He is the author and editor of books like *Architektur immaterieller Arbeit* (2013), *The Design of Scarcity* (2014), *Modelling Vienna: Real Fictions of Social Housing* (2015), *Wunschmaschine Wohnanlage* (2016), and *Into the Great Wide Open* (2017). He holds guest-professorships, amongst others at the State Academy of Fine Arts, Stuttgart, Muthesius Art Academy, Kiel, and University of Technology, Vienna. Between 2009 and 2015 he was able to acquire an extensive archive about office landscaping, including around two thousand original slides, all publications and many internal papers of the Quickborner Team. He is currently preparing a bigger publication on office landscaping.