The Flanellgraph, the Bulletin Board, the Watercooler, the Shouting Foreman, and Training Role-Plays: Media Technologies and the Development of Postwar Public Spheres of Production

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Abstract

Long before internet and social media, postwar Western corporations created a particular public/private 'sphere' based on particular media technologies. Early 20th century managment and industrial production methods in the Fordist tradition tried to develop strictly regulated and indisputable procedures for machines and humans alike. Automation 'proceduralized' industrial production while managagment became gradually more based on predefined processes rather than authority and violence.

The background for this paper is how media technologies - film, television, radio, journals, slide shows, sound slides, posters, exhibitions - were incorprated in corporate social activities - training programs, courses, lectures, seminars, meetings, individual coaching, orders. Where trade unions saw manipulative inhuman control by capitalist power, industry leaders and management consultants saw unnecessary involvement of personal experience and entertainment.

Based on a particular case study, this paper uses the flanellgraph, the conference room, and management role-play simulations. This set-up is fairly representative of what was seen as the most modern way of developing shared knowledge of visions and strategies, new regulations, new methods, improved safety and efficiency at the time. It is also where experiences of the public (democratic institutions and debates as well as news and entertainment media) and the private (family life, fantasies, emotions, nonprofessional competencies) interfered with corporate practicies.

This paper thus argues that uses of (potentially) interactive media technologies together with workers' personal experience of media created a kind of human-material resistance - deliberate, by sheer ignorance or just by necessity - against dominating corporate uses of media forms such as films, printed media, and traditional foremen's orders.

The Flannellgraph

Of the many new technologies for information and learning in the 1950s no one is as emblematic and still theoretically as invisible as the flannelgraph. "The principle behind flannelgraph", as one plea for the medium's use in teaching geography in American schools states in 1956, "is that flannel (felt or any napped material) will stick to flannel" which makes its key feature possible, in that "your figures may be moved at will and can be transferred from place to place".

Technically speaking the flannelgraph combines cloth, wood, steel, sometimes paper or cardboard, as well as a physical space, technical support staff, storage, distribution, and of course one or more teachers/instructors and at least one students. The flannelgraph has much

¹ This paper is based on a chapter on the flannelgraph from a book manuscript I am preparing on corporate media technologies during the 1950s.

² Hazel Ward Hoffman, "The Map Comes Alive", Journal of Geography, Vol. 55, No. 2 1956, 77.

in common with other information technologies at the time, such as slides, sound tapes, posters and films. This technology has a lot in common with other technologies at the time, a material object that is supporting the communication between teacher and student. There is however a paramount difference: the flannelgraph is an interactive information and teaching tool, although the prefabricated parts limit the interactivity. Even if a part could be designed and manufactured for the specific teaching situation, it remained the same during its durability as a teaching tool.

The flannel board is truly a medium. Someone (a teacher) attaches individual units (words, charts, illustrations) on to the flannel board in order to communicate something to someone else (apprentice, student). There is, at least ideally, some form of conceptual link between the arrangement between the board and the intended message. As for a text, an image, or a film, the arrangement of its units is supposed to help the receiver to create meaning. In this regard the flannelgraph is and was a typical pedagogical tool, a technical arrangement that was supposed to help the teacher's profficiency.

In contrast to a text, a film or an illustration, the flannelgraph is not necessarily stable; the units can be rearranged during the teaching session. Quite often they were not, but at least they could be changed. Adding to this, in contrast to a text or a film, but similar to an illustration, the flannelgraph does not necessarily require a predetermined sequential reception of it (even if it often did). Consequently, in contrast to a text, but similar to a film or an illustration, the flannelgraph is neither a text nor providing a text.

Still, in its everyday pedagogical use the flannelgraph was used to create a story. Since its units could be almost anything, representational or abstract, its functions were to a large extent similar to a film, with the exception for its potential of interactivity and its predetermined temporal extension.

The flannelgraph thus combined many objects, concepts, ideas and processes concerning media and information in the 1950s. It does so by having its parts relate to other objects, which creates the material aspects of the informational media ecology of 1950s organizational world.³ But it also, as an assemblage, becomes part of a more or less standardized system of processes concerning both educational ideologies and uses of material tools for learning. The flannelgraph "itself" thus often becomes marginal to these relations and processes, but nevertheless remains the focal point of my analysis. In the following we will look at these relations and processes from the perspective of the flannelgraph.

Another crucial dimension is its relations to human agency. "By using films instead of oral presentations, nothing is lost from the producer, by way of everyone involved in marketing, distribution and selling, to the consumer", as one Swedish handbook in using film for sales purposes, states in 1946.⁴ In this handbook, as in many others at the time, audiovisual media was said to have a strong, direct emotional impact on people.⁵ The book continuously argues that films could be useful for selling specific products. A systematized composition of individual films and whole programs together with systematized film screenings could

³ Media ecology understood as Mathew Fuller discusses the concept in *Media Ecologies: Materialist Energies in Art and Technoculture* (Cambridge, MA: The MIT Press, 2005)

⁴ Einar Förberg, Att sälja med film (Stockholm: Förlags AB Affärsekonomi, 1946), 24.

⁵ See for example Henry Clay Gipson, *Films in Business and Industry* (New York and London: McGraw-Hill, 1947) or the many guides to find in journals such as the US-based *Business Screen Magazine* or UK-based *Industrial Screen*.

become the most effective "selling machine". This was rhetoric similar to the sale of television advertising at the same time.⁶

Considering the importance of emotional features in consumption, the flannelgraph perhaps had few advantages as a selling machine. On the other hand, since the same handbook states that the "long-term effects" of audiovisual media was especially useful for creating goodwill for individual companies, all kinds of products or industry branches, films consequently also could have been regarded as "teaching machines".

In the production of industrial films theories and practices of organizational communication were seen as important, perhaps even more important than "traditional" movie storytelling. Films became one of many tools for rationalizing the communication between management and employees. More importantly, the question whether films actually were useful, in the sense of creating desired changes, was everything but solved. To cinematic problems of form, content and effect now was added psychological and spatial problems: how to improve contact between product and consumer, and between management and employees. 10

The theoretical foundation for emotional and engaging arguments of film as tools for informational and pedagogical practices, can be found either in a direct link between emotion and learning (as in behavioral psychology), or indirectly, when the engagement in films is a mediator between sender and receiver, between teacher and student. In both cases we can see influences from the then new communication models, for example Shannon and Weaver's, as well as different theories of cybernetics. ¹¹ The frequent uses of the word *contact* in discussions concerning media and information or learning, indicates that despite the strong

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⁶ Lynn Spigel, *Make Room for TV: Television and the Family Ideal in Postwar America* (Chicago: The University of Chicago Press, 1992), 83.

⁷ Pedagocial uses of film had been discussed, tested and evaluated at least since the 1920s, see for example Hans-Jürgen Brandt, "Vom Lehrfilm zum Kultur- und Propagandafilm: Entwicklung und Kontroversen", Triumph der Bilder: Kultur- und Dokumentarfilme vor 1945 im internationalen Vergleich, eds. Peter Zimmermann and Kay Hoffmann (Konstanz: UVK, 2003), 74-104 or Valérie Vignaux, "The Central Film Library of Vocational Education: An Archeology of Industrial Film in France between the Wars", Films that Work: Industrial Film and the Productivity of Media, eds. Vinzenz Hediger and Patrick Vonderau (Amsterdam: Amsterdam University Press, 2009), 315-327. ⁸ In 1952 the National Association of Employers initiated the Personnel Administration Council (PAcouncil) [In Swedish Personaladministrative rådet (PA-rådet).]. The PA-council was designed as a promoter of research on human resources (HR) and as a consultancy organization in matters concerning PR, Rolf Lahnhagen 1954, 3. Among the areas they covered were communication technology, or as they often called it, tools for contact making. They soon even started a distribution company for moving images, slide shows and other information and educational media: PAdistribution. The PA-council edited a catalogue, initially a loose-leaf system, which a large number of the member companies subscribed to. The first printed, collected, edition was published in 1960. Compare with German Der Deutsche Industriefilm which began published in 1960.

⁹ Although many attempts to appraise the usefullness of non-theatrical cinema, few have convincingly proved these films succes. On the contrary, the reason for their gradual demise, or at least changed "use" during the 1960s and 1970s, could as well be an indication of the actual uselessness. Cf Charles R. Ackland and Haidee Wasson, *Useful Cinema* (Durham, NC: Duke University Press, 2011)

¹⁰ Of course psychological and spatial problems have been part of filmmaking from the very beginning, but they have rarely been in focus, as more important than the aesthetic issues.

Here the early Swedish translation of Norbert Wiener's, *The Human Use of Human Beings:* Cybernetics and Society (Boston: Houghton Mifflin, 1950) as Materia, maskiner, människor: cybernetiken och samhället (Stockholm: Forum, 1952) was important. Claude Shannon and Warren Weaver's *The Mathematical Theory of Communication* was also often referred to.

impact from behavioral psychology, most handbooks, guides, and learning models of how to use media, rather goes for the indirect model - the medium as *medium*.

The changing use of film within the industry during the 1950s can be explained as a move from using industrial films as documentary or advertising films, that is, as "films", to a use of film as an information and communication technology. There was a growing awareness during the 1950s that film was an important tool for information and propaganda (something learned during World War II), but also that the employees, also were moviegoers, they "knew" the medium. Those who learned how to combine these things, had in their hands an efficient information system, indicating that they were "literate". This was most important at the time, for what was at stake was not only informational efficiency, but also the need to protect and develop a political system. The frequent references to uses of industrial media in US was as much a result of the advancement of US industry media use, as of European industry leaders "use" of the US, to promote a free economy against real or imagined threats by Social Democracy and trade unions. As S. Jonathan Wiesen argues concerning the West German industry in the 1950s:

In [...] corporate publicity — magazines, industrial exhibitions, films — America was clearly omnipresent in the form of US representatives offering advice to their transatlantic business partners or, more commonly, as a set of preconceptions and personal experiences that West German industrialists brought to their PR and human relations work. These publications were also indicative of a larger Cold War anxiety about a different model of labour relations, namely a communist one, which proclaimed the workers and owners to be one and the same. In effect, West German industrialists in the 1950s used America, in its multiple incarnations, to overcome the animosities between the business world and the working world, and to prevent labour from challenging the free market economy. 12

It may be a coincidence that the preoccupation with "contact" within organizations became a focus of attention within management and organizational theory at the same time as film and television audience research increased rapidly, but the result was not coincidental. What came out of these two tracks was an awareness of the importance of a kind of audiovisual literacy. Since film and television was popular among the general public, it had a value for public relations just to commission a film. It became an indication that the company had an understanding of what the present and future employees wanted (just as it during the late 1990s became important to have a website whether they really used it or not). One reason for the urge to be popular particularly among young people was the shortage of industrial workers. Films became an important tool to attract young people to industrial work.

More and more of the existing workforce was also more used to get a significant part of their information from moving images, primarily through television but also, partly, from film. Cinemas could only be used for very short films, which in the end promoted product advertisements, not longer stories. In Sweden industry was excluded from television, by the banning of commercial television in 1956. This, and the fact that the competition from the trade unions was very limited opened up for a continuation of the old medium of films - for those companies and organizations that did not have a thorough communication strategy. ¹³

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¹² S. Jonathan Wiesen, "Coming to Terms with the Worker: West German Industry, Labour Relations and the Idea of America, 1949–60", *Journal of Contemporary History*, Vol 36(4), 561–579, p. 574.

¹³ An important difference between films made by companies and films made by trade unions (or the Social Democrativ party) was the awareness of some kind of media literacy. The industry was, as it seems, more efficient in exploiting the audience skills in using audiovisual media as tool for learning.

Films were the perfect tools for the lazy and economical managers. Those genuinely engaged in efficient communication understood the value of activity and interactivity.

The Bulletin Board

Slides, perhaps more than sound slides, were parts of a system aimed at communication together with speech and sometimes even with dialogue. Without the presence of a teacher or sales representative, the slides had no communicative or pedagogical uses. Their internal temporal relationship, that is sequentiality without fixed speed or timing, made them into useful tools for pedagogical narration. Vocational training slides helped emphasize causality that was of much use in explaining processes and issues concerning risk and safety.

Theoretically speaking, the use of slides fit well into contemporary discussion of (one-way) communication and its use (and misuse) in education. In a discussion on the advantages of slides, educationalist Gösta Larsson, at a conference on audiovisual aids for schools in 1960, argued that slides were the easiest aid for teaching. Here, for one thing "easiest" meant that slides were an efficient means of conveying information to a group of learners, it also meant that slides were easy to produce and distribute in a centralized system. Films, in comparison were seen as expensive and more difficult to distribute than other aids, even if they were useful for reproducing movement and duration. Sound-slides were, Larson argued, better than film because they are easier to adapt to different audiences, for example by using different sound tapes to the same images. It is also less expensive than film.¹⁴

Even Förberg wrote about sound-slides, or in his terminology "still films", that is—slides with synchronized gramophone recordings. According to him sound-slides should not be seen as cheap or simple alternative to films, because the "still film" was the most important technology for selling anything. Förberg then begins to argue for the limitations of film, and the advantage of sound-slides. The former directed to the emotions, the latter to the intellect. But the most important feature of the sound-slides were their even higher efficiency in improving the "contact" between producer and consumer.

Posters and flannelgraphs have much in common. They both open up for non-sequential design and interpretation. Both can be used for explaining complex messages. And, in contrast to sequential media as film and sound-slides, they describe a two-way communication. The latter is important because it provides a technology for illustrating and explaining feedback loops and with the help of a human commentator also performs feedback.

The high school lecturer Nils Håkansson described the different technologies and uses of audiovisual media in education that had been developed in the educationa system during the 1940s in a Swedish instruction manual from 1953. His work was influenced from visits in the US and Netherlands and he had carefully studied the contemporary debate on media in education in the US as well as in other countries. ¹⁶ He refers for example to Floyde E. Brooker at Visual Aids to Education at United States Office of Education in Washington D.C. in order to legitimate his presentation not only in science but also in institutional practice. Håkansson's book is representative of a certain attitude to education during the postwar years.

¹⁴ Gösta Larsson, Att se och lyssna (1960), 30.

¹⁵ Förberg, 173.

¹⁶ Nils Håkansson, *Bild och ljud i undervisningen: Handbok om audio-visuella hjälpmedel* (Stockholm: Natur och kultur, 1953)

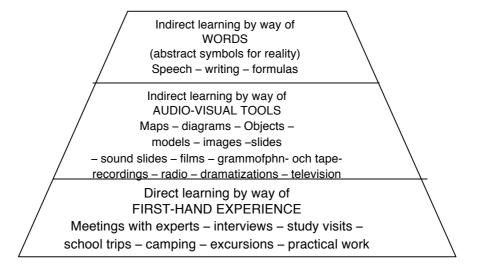
Håkansson, and the many studies he referred to, argued that audiovisual representation worked, since it was a quite simple, and unproblematized, replacement of real experience. Without problematizing the "reality" of media experiences, the contemporary debate obviously made a crucial distinction between experiences of real events and experiences of mediated events. In practice this meant that uses of media in education involved an evaluation of the advantages and disadvantages of these two experiences.

The idea of bringing reality to the student as well as basing the teaching on the student's own experiences, can be seen as a distant heritage from the "object lessons" of the late 19th century, particularly in teaching native people in Europe and North America.¹⁷ This is not a far-fetched reference due to the often-recurring set of questions concerned issues of translation and how to deal with different levels of literacy within vocational training and education.

The Watercooler

Håkansson marks a distance, however, to those who only rely on first hand experience. In a modern, complex society, this becomes apparent when teaching past events, history. So, when students cannot go to the reality, the reality has to come to the students. So far, this was made through written texts and spoken words. On the other hand, research had showed that very little of what was said by teachers was remembered by the pupils. Maybe, says Håkansson, we should consider "if it's not the case that teachers are talking too much in our schools". Here, Håkansson refers to Edgar Dale from Ohio State University and his definition of "verbalism": "Verbalism – the use of words which are not understood – is a disease usually caught in school."

In the beginning of the book Håkansson introduces James S. Kinder's (and E. G. Olsen's) "cone of experience" (obviously a version of Edgar Dale's cone of experience):



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¹⁷ Petra Rantatalo, *Den resande eleven: folk-skolans reserörelse 1890–1940* (Umeå 2002) s. 47–78 and Jon Reyhner & Jeanne Eder, *American Indian education: A history* (Norman 2004) s. 85–107. ¹⁸ Håkansson 1953, 14. Italics in original.

¹⁹ Ibid., 15. Italics in original.

The idea of the cone is to illustrate how the efficiency of learning decreases with increased abstraction. With reference to American experiences of the advantages of using audiovisual aids for teaching, Nils Håkansson argued that audiovisual aids (tools) give students "concrete conceptions" of the specific subject, they stimulate interest and "permanent knowledge", as well as interactivity. He also argues that for example images that creates a contrast and encourage comparisons help develop logical thinking. With increased knowledge of different subjects comes an increased understanding of words, and with interpretations of new experiences (which can not be gained in "reality") follows increased imagination and creativity. Interestingly, he does not really distinguish between different audiovisual tools, although he obviously promotes a wide range of tools for different purposes. Håkansson is quick to remark that this requires hard work from the teacher. He mentions that a decade earlier there was a discussion on the possibility of replacing the teacher with "some kind of operator, who only presses buttons in order to initiate an efficient learning process." It is, according to Håkansson, rather the opposite; more work is needed.

Håkansson's ideas are based on the premise that children as well as adults learn more from experience than from abstract symbols, that is, words. We need a "basis of ides" that is actualized by words and expressions. This is where audiovisual aids become important; "for creating correct ideas of the world that are necessary prerequisites for creating concepts. Following this Håkansson discusses a potential conflict between theoretical and practical knowledge. This is particularly the case in the US, he argues, but the practical skills that are so often emphasized in the US concerns skills in creating concepts. ²³

Audiovisual aids are most of all tools for creating concepts in a more efficient way, where concepts are based in real situations and experiences. Following this it is dangerous to present fixed knowledge. Here Håkansson criticizes many American productions and teaching methods, particularly the spoken texts, the "captions" of the sound-slides. ²⁴ Håkansson's critique of texts emerges from an idea about learning he describes as heuristic, that is, where the students themselves will have to search (Greek *heuristico* means "I find") proper knowledge.

The flannelgraph thus becomes a technology that has the potential of supporting creations of concepts, even more than sound-slides, sound tapes and, consequently, written texts. By demanding the presence of an instructor, the technology, at least, does not presuppose a fixed meaning. Thereby the plannelgraph opened up for people using this particular technology in both everyday work and training role-play events.

The Foreman

All pedagogical use of media technologies involve an aspect of human-technology interaction. Even if I hardly believe there were any knowledge of Heidegger's tool analysis among communication, information and learning specialists during the 1940s and early 1950s, there seems to be an interest in theorizing tools during the postwar years.

²¹ Ibid., 18.

²⁰ Ibid., 13.

²² Ibid., 19.

²³ Ibid., 15.

²⁴ Ibid., 17f.

The ubiquitous uses of the "tool" concept in relation to uses of media in industry and organizations invite an object-centered, materialistic analysis.²⁵ References to cybernetics and system analysis may be relevant, but may also be misleading. The ubiqutuos *theoretical* presence of cybernetics and system analysis has to be compared to what was actually happening in the companies at the time. I argue that in most cases the development of practicies and regulations and human resources were stronger than cybernetics, operations analysis and systems analysis.²⁶ The rapidly increased Swedish literature on management psychology during the 1950s is in indication of that.²⁷

With the expansion of human resources, industry debates during the 1950s also included concern for the symbolic dimensions of humanity, and the inseparability of concepts, language and subjectivity from the world of bodies, machines and other objects. As the contemporary American anthropologist Leslie A. White wrote in *The Science of Culture* in 1949:

It was the introduction of symbols, word-formed symbols, into the tool process that transformed anthropoid tool-behavior into human tool-behavior. [Italics in original]

It is hardly possible to otherwise explain why many of the "tools" for contact, learning or information that are introduced, used and analyzed, become subject to conceptualization, theorization or otherwise less systematic written or spoken descriptions. Seen in this way, using media as a tool for learning constitute a form of industrial or organizational learning culture analogous to Whites tool-based view of human (material) culture:

Culture without continuity of experience is, of course, impossible. But what sort of continuity of experience is prerequisite to culture? It is not the continuity which comes from the communication of experience by imitation, for we find this among apes. Clearly, it is continuity on the subjective side rather than on the objective, or overt, that is essential. As we have shown, it is the symbol, particularly in word form, which provides this element of continuity in the tool-experience of man. And, finally, it is the factor of continuity in man's tool-experience that has made accumulation and progress, in short a material culture, possible.²⁹

Many uses of audiovisual media seem to sustain a pedagogical view based on imitation and simulation. The emphasis on visual imagery, and spoken words explaining the images and the events represented in the images, thus contain a residual world-view of taylorism and fordism.

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²⁵ In the larger context, which this text is part of, the object-oriented approach is more present. Cf. Ian Bogost, *Alien Phenomenology, or What It's Like to Be a Thing* (Minneapolis: University of Minnesota Press. 2012)

²⁶ The theoretical elaboration described in research on 1950s developent of an "expert society" is not wrong, but hardly relevant for the average firm, and thereby not representative for the average worker's or manager's everyday expaerience. Cf. Hughes, Agatha C. and Thomas P. Huges, eds, *Systems, Experts, and Computers: The Systems Approach in Management and Engineering, World War II and After* (Cambridge, MA: The MIT Press, 2000).

²⁷ See for example, G. Boalt, *Arbetsgruppen* (Stockholm: •••••, 1953); Joachim Israel, *Gruppdynamik och ledarskap* (Stockholm: SNS Förlag, 1954); Arne Lundquist, "Kriterium på en framgångsrik arbetsledare", *Affärsekonomi*, No. 3, 1953, •••••; Arne Lundquist, *Anpassning i arbetet*, PA-rådets meddelande nr 10 (Stockholm: PA-rådet, 1957); G. Westerlund, *Behavior in a Work Situation with Functional Supervision and with Group Leaders* (Stockholm: •••••, 1952).

²⁸ Leslie A. White, *The Science of Culture: A Study of Man and Civilization* (New York: Groove Press, 1949), 45.

²⁹ Ibid., 48.

Seen in this way the worker, blue- or white-collar, is just a cog inside the factory or office machinery. The worker consequently becomes less human.

Tools for contact thus become vehicles for interaction within the corporate hierachy. In a 1957 'sociological study of the importance of the work situation and personal qualities for foreman performance' by Agne Lundquist (for the PA council) the issue of contact was one of many variables. One distinguishing factor was contacts with superiors. Foremen with frequent contacts with superiors were more oriented towards workers' interests. But, only if the foreman already was worker-oriented. The popularity (and effectiveness) of foremen who were not worker-oriented was not improved by an increasing contact with superiors. That is, a weak leader is not strengthened by increased contacts upwards, whereas a strong leader only enhances his strength by upward contacts. This means, in my opinion, that Lundquist's research regards contacts downwards as more determining of the output than contacts upwards. When it comes to contacts with the working group the results are more complex. Lundquist finds four different correlations:

- 1. Less worker-oriented foremen in small teams are less likened by the worker than less worker-oriented foremen in large teams.
- 2. Strongly worker-oriented foremen in small teams are more liked by workers than strongly worker-oriented foremen in large teams.
- 3. Strongly worker-oriented foremen in small teams are more liked than less worker-oriented foremen in small teams.
- 4. Strongly worker-oriented foremen in large teams are less likened than lesser worker-oriented foremen in large teams. Here, size has overruled worker-orientation. One explanation, according to Lundquist, is that worker-oriented foremen tend to give certain workers in large teams preferential treatment.³²

Interesting here is that an increase in worker-orientation makes the foreman more popular regardless of the frequency of contacts between foreman and workers.³³ Another result was that foremen with some leadership education were less popular.³⁴ Foremen with many contacts with their superiors had less worker absence in the groups. Smaller teams had higher worker absence, despite a higher contact between foreman and workers. This result surprised Lundquist. His explanation was that in smaller teams the foreman's "detailed surveillance" may be more pronounced, which results in higher absence.³⁵

Role-Play

Consequently the traditional 'shouting foreman' opened up for social interaction between workers. With the presence of tools for contact, workplace media such as bulletin boards and unofficial discussions around water coolers increased. If combined with possibilities for non-verbal suggestions for improvement, written on paper and put in a box, worker initiative could increase, but were dependent upon the openness of the management (above the shouting foreman).

³² Ibid., 75.

³⁰ Agne Lundquist, *Arbetsledare och arbetsgrupp*, [PA-rådets meddelande nr 9 Rapportserien] (Stockholm: PA-rådet, 1957), 49.

³¹ Ibid., 68.

³³ Ibid., 76.

³⁴ Ibid., 84.

³⁵ Ibid., 94f.

If managers, foremen and workers, together or separately, from such an organization were to meet at a conference, uses of top-down media as films would result in different processes than interactive events like role-playing or group work. 36 Increased interactivity would compensate for the mediated everyday communication and films would just strengthen the formal hierarchy of the organization. From a cybernetic perspective, a functioning feedback system could compensate for the one-directional communication of film, but would, given the size of such organizations, still depend on a more interactive medium, such as role-play or flannelgraph-based discussion.

Modern foremen in small teams became less dependent upon one-directional (if complemented by feedback systems) tools for contact, but if films were used, those may become more manipulative given the increased presence of the foreman. On the other hand, more interactive media like bulletin boards, discussions with slides or flannelgraphs, with or without simulations or role-play could, given a low degree of surveillance, open up for the kind of open, creative and democratic model most human resource theories prescribed.

These different attitudes towards different media can perhaps be explained by way of the different level of public culture within different organizations. In general, questions regarding feedback concerning organizational development are rare in my material. Interactivity in the form of mechanical incentive systems were of course frequently discussed in relation to work processes, but rarely in relation to seminars, conferences or courses. Given the contemporary huge interest in cybernetics and system theory, its relative absence within organizational development is also surprising.

One explanation could be that during the immediate postwar decades modern, Western capitalist corporate organizations developed a particular, but tremendously influential form of public sphere separate from, but still related to, both the private spheres of family and friends, and the traditional bourgeois public sphere. Here Oskar Negt and Alexander Kluge's concept of the 'industrialized public spheres of production' [Produktionsöffentlichkeiten] may be useful ³⁷

Negt and Kluge, writing during the late 1960s and early 1970s, described the public spheres of production as at the same time excluding and incorporating, they were direct expressions of organizational power relations, and strictly material. More importantly the public spheres of production 'provide, without any real change in the class situation, the semblance of the human as a separate product³⁸ and 'the consciousness of the worker becomes the raw material and the site where these public spheres realize themselves'. ³⁹ Negt and Kluge thus distinguished the public sphere of production from the traditional bourgeois public sphere in

³⁶ In the longer version there is an elaborate analysis of different business and human resources roleplays. Cf. Kibbee, Joel M. Clifford J. Craft, Burt Nanus, Management Games: A New Technique for Executive Development (New York: Reinhold, 1961)

³⁷ Oskar Negt and Alexander Kluge, Public Sphere and Experience: Towards an Analysis of the Bourgeois and Proletarian Public Sphere (Minneapolis: The University of Minnesota Press, 1993 [1972])
³⁸ Ibid., 17.

³⁹ Ibid., 18.

that the former does not even pretend to separate itself from the marketplace. This dichotomy opens up for an interpretation of industrial media use as a truly unique and individual experience, still profoundly gendered and class-biased.

The middle-class men in their 'grey flannel suits' whose inner desires were mapped and exploited by the 'deep method' of motivational research were perhaps as much 'programmed' by the production process itself - expressed through the technologies of the industrial public sphere of production - as of Hollywood and Park Avenue, contrary to what the culture industry model prescribed. Organizational role-play thus created another mode of interaction, focused on rational learning rather than their (house)wives interaction through (ir)rational consumption. Thus, the everyday manifestation of cybernetics' feedback model becomes more direct and mechanical in women's mass mediated shopping than in men's industrially mediated learning and training.

In conclusion, I will argue that the uselessness of industrial films mentioned in the beginning, on the one hand becomes an interpretation of a lack of evidence of film's persuasive capacities, on the other hand an indication of a (limited) mechanism of resistance to persuasion inherit in the public sphere of production. The persuasive power, the usefulness, of one-directional tools for contact, for example films, became more of a reassurance of the existence of contact due to its lack of political legitimacy, than a source of knowledge. Real organizational learning, and thus a persuasive socializing force, emerged by way of interactive media in the form of slides, posters and role-play. The potential playfulness of the flannelgraph, later manifested through its missionary and kindergarten uses, could have become a most efficient tool for contact. Flannelgraphs may be explained by the potential for resistance and alternative interpretations, not by its content, but by the technological foundation of prefabricated parts open for unlimited interaction. And that openess for interaction and play was not what the management of the 1950s Western capitalist industry wanted to promote. Did the flannelgraph become too dangerous?

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⁴⁰ Vance Packard's, *The Hidden Persuaders* (New York: David McKay Company, 1957) were very popular even in Sweden.