

Films that Work

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# Industrial Film and the Productivity of Media

Edited by Vinzenz Hediger and Patrick Vonderau

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## Introduction

## Vinzenz Hediger and Patrick Vonderau

Reminiscing about his days as a union organizer, David McDonald, the former president of the United Steel Workers of America, relates the following anecdote. According to McDonald, in order to get steel workers to join the union, the union organizers used a technique

which we called ... visual education, which was a high-sounding label for a practice much more accurately described as dues picketing. It worked very simply. A group of dues-paying members selected by the district director (usually more for their size than their tact) would stand at the plant gate with pick handles or baseball bats and confront each worker as he arrived for his shift.<sup>1</sup>

"Visual education" here serves as a euphemism for the ostentatious threat of physical violence against workers unwilling to join the union. What is more, "visual education" is put on display at the factory gate, which is, of course, a key site of industrial culture, but also of film history. Workers leaving the factory have been a staple of industrial photography since its introduction in the second half of the 19th century, and workers leaving the factory, plus a dog, were the subject of the first Lumière film. However, the anecdote deals with workers arriving at the factory rather than leaving; apparently, changing the direction of the worker's physical movement and moving the time of the observation to the beginning of the shift rather than its end reveals something that is not quite as obvious in either the photographs of workers leaving the factory or the Lumière film.

The story highlights a relationship between visuality, power, and industrial organization that in one form or another may well have run through a good part of the history of modern industrial societies. Unions, for one, became a fact of life throughout these societies in the second half of the 19th century, which coincidentally is about the same time that the workers leaving the factory started appearing in photographs. Certainly, the story does not involve the use of film but rather another visual medium, the *tableau vivant*, albeit one formed by a troupe of thugs armed with bats and pick handles rather than a group of ladies and gentlemen styled in the fashion of old paintings. Moreover, its purpose is not primarily aesthetic in nature. The visuality of the display, however, is still indispensable to its effect, which, together with its organizational purpose, makes it relevant to the present undertaking. Tracing and analyzing films in and on industrial organizations is the main concern of this volume.

In terms of output, industrial and commissioned films are definitely among the most prolific formats or genres in film history. Still, little scholarship has been devoted to this corpus of films, and almost none of it with a view to the field of knowledge and power evoked in McDonald's anecdote. Most studies on industrial films come from social historians and historians of technology, who tend to value moving images as source material rather than objects worthy of interest on their own. In cinema studies, the criteria employed for selecting worthy objects of study seem to preclude any prolonged engagement with utility films, with the exception of the early films of canonical directors such as Alain Resnais or Jean-Luc Godard. However, relative to the wealth of material in industrial film archives that apparently lacks artistic distinction, such specimens are in short supply. Accordingly, any attempt to use the holdings of the industrial film archive as raw material for the production of academic auteur criticism will lead to a trickle rather than a stream of exciting scholarship.2 Assuming, as this volume does, that films made by and for the purposes of industrial and social organizations constitute the next big chunk of uncharted territory in cinema studies,<sup>3</sup> one cannot but agree with collector-archivist Rick Prelinger, a pioneer in the field of industrial-film research, when he states that "it would be a great leap forward for cinema studies if we were able to avoid the auteur theory this time."4

But how, indeed, if not through the auteurist lens, should the film scholar approach such films? What, if anything, can film scholarship contribute to an understanding of this material? What kinds of questions that images of and for industry pose can cinema studies help to answer with its particular set of analytical tools? And if the purpose of industrial and other utility films is not to provide, first and foremost, an aesthetic experience of the artistic kind, which theoretical models and frameworks should be employed in examining these films in order to explain why they look the way they do and better understand their purpose?

In various ways, these are the questions that the contributions in this volume address. If there is one common answer to be found in the essays that follow, it is the assumption that the films discussed here cannot be divorced from the conditions of their production and the contexts of their use. Far from constituting self-sufficient entities for aesthetic analysis, industrial and utility films have to be understood in terms of their specific, usually organizational, purpose, and in the very context of power and organizational practice in which they appear. As Thomas Elsaesser points out in his contribution (as well as in his other work on industrial films), all industrial films have an occasion, a purpose, and an addressee, or an *Auftrag*, *Anlass*, and *Adressat*, rather than an auteur. Furthermore, as the editors of this volume propose in their joint contribution, there are the "three Rs" or areas of purpose that media in general and films in particular

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can serve in industrial organizations: *record* (institutional memory), *rhetoric* (governance) and *rationalization* (optimizing process).

A good part of the film scholar's work when addressing industrial films, one might argue, lies in the search for the three As and the three Rs to complement the actual film. As found in the archive, the films constitute traces of the forms of social and industrial organization which they once served, and, more often than not, their intelligibility depends on the degree to which a reconstruction of these frames of organization is possible. Of necessity, then, as objects of knowledge, industrial films transcend the boundaries of the material object of film found in the archive and refer to a *dispositif*, a complex constellation of media, technology, forms of knowledge, discourse, and social organization.<sup>5</sup>

But, if production histories have long been part and parcel of film analysis, particularly for approaches such as the Bordwellian "historical poetics" of film, industrial films call for a different kind of approach. Production histories of fiction films reveal the situations that produced the films. What is at stake in industrial and utility film research is not just the institutional framework in which the film was produced, but also, and perhaps first and foremost, the situation or constellation that the film produces. Assuming that films, like other media at work in social and industrial organization, from writing and graphics to the telephone and the computer, provide the condition sine qua non for the emergence of certain types of social practice such as large-scale industrial production and globalized financial markets, industrial films are perhaps best understood as *interfaces* between discourses and forms of social and industrial organization.

Industrial organizations, like all forms of organization, are based on knowledge and its transferability. Some kinds of knowledge, such as an experienced worker's specific skills, remain implicit and are not transferable. Technical and administrative knowledge, however, is eminently transferable and allows for the emergence of functional hierarchies and the differentiation of professional roles and the division of labor. Furthermore, control in organizations, and particularly large organizations in competitive markets, depends on knowledge in the sense of informational feedback about specific operations and their success. If we thus understand organizations as systems of knowledge and knowledge transfer aimed at creating certain kinds of outputs, their emergence in turn depends on the availability of technical media that store and transmit information and thus allow for the transfer of knowledge, such as the telephone, the computer, or film.

More often than not, industrial films are supposed to directly translate discourse into social practice, which is particularly obvious in training and educational films, such as the management films discussed by Ramón Reichert in his contribution to this volume, but also in the union films discussed by Stefan Moitra, whose visual strategies provide guidelines for political action. At the same

time, industrial films, like other media, document social practice and create feedback for social and industrial organizations, thus facilitating their operation and their adaptation to changing environments. What is at stake in industrial film research, then, is the complex interrelationship of visuality, power, and organization, and specifically how film as a medium creates the preconditions for forms of knowledge and social practice.

In that sense, industrial film research might best be understood as part of an epistemology of media in a broader sense, a project guided by a set of questions that have thus far been most prominent in certain areas of the history of science. At the same time, industrial film research points to a domain circumscribed by Foucault's concept of governmentality, i.e., the dependence of modern forms of governance on certain types of knowledge, particularly statistical knowledge concerning entire populations. If the contributions in this volume provide a survey of relevant topics in industrial film research and, through what they discuss as much as through what they omit, create a map of possible topics for future research, they also provide the outlines of a field of research in which epistemological questions related to media and political questions concerning governance, knowledge, and power can be brought together in a new form of inquiry with a potential to impact both film and media studies and political and social science. For, if epistemological inquiries into the role of media in science tend to neglect the social realm beyond the space of the lab and the scientific community, governmentality studies, closely following the lead of Foucault himself, are generally oblivious to the role that media, and particularly technical media, play in constituting the power relationships that they analyze and discuss.

In that sense, the essays in this volume may also be read as contributions towards the project of a historical epistemology of media in social and industrial organizations that translates specific historical findings into a systematic framework that helps us better understand how social practice emerges from certain forms of knowledge and their configuration with (technical) media. If film scholars tend to be sensitive to ideology in representations but rarely say much about social practice beyond the screen, sociologists and political scientists care only about social practice and tend to neglect how much of it is mediated, not least through the cinema screen. Industrial film research, this volume would like to show, provides a chance for both to overcome the specific limitations of their methodologies and mindsets. It may help the social scientist understand just how carefully chosen a euphemism "visual education" is in our introductory anecdote, and it may help the film scholar better comprehend the impact of visual displays, even when there is not a single frame of film in sight.

The contributions in this volume are divided into six sections. Section I, "Navigating the Archive," brings together three contributions of a methodological nature. In "Archives and Archaeologies: The Place of Non-Fiction Film in Con-

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temporary Media" Thomas Elsaesser situates industrial films within a broader research agenda concerned with non-fiction film and provides a series of theoretical handles that may prove useful in future research. In "Record, Rhetoric, Rationalization: Industrial Organization and Film" Vinzenz Hediger and Patrick Vonderau propose a framework of analysis that differentiates between the film medium's specific organizational functions. And finally, in "Vernacular Archiving," a conversation with Patrick Vonderau, Rick Prelinger discusses some of the issues involved in the archiving of industrial and other "ephemeral" films, as he proposes to call them.

Section II, "Visuality and Efficiency," brings together a series of case studies that discuss issues of knowledge, visuality, and efficient industrial organization, with most of the six contributions focusing on early cinema and paracinematic visual practices such as the slide show. In "Early Industrial Moving Pictures in Germany," film historian Martin Loiperdinger provides a survey of the representation of industrial production in early German cinema. In "Layers of Cheese: Generic Overlap in Early Non-Fiction Films on Production Processes," Frank Kessler and Eef Masson discuss process films in terms of their strategies of address and visual representation, demonstrating the extent to which the visual vernacular of the industrial film was formed outside organizational discourse in popular film forms, only to be imported into the rhetoric of industrial organization later on. Scott Curtis proposes a new perspective on the workstudy films of Frank Gilbreth in "Images of Efficiency," highlighting their formal strategies as part of the discourses of contemporary management theory rather than taking the films and their claims of improved efficiency at face value. In "'What Hollywood Is to America, the Corporate Film Is to Switzerland': Remarks on Industrial Film as Utility Film," Yvonne Zimmermann proposes a post-auteurist approach to industrial films, arguing from the wealth of such material in Swiss film archives. Gérard Leblanc discusses the complex web of relationships that condition the work of the industrial filmmaker in "Pous-SIÈRES: Writing the Real vs. the Documentary Real," taking a film by Georges Franju on the prevention of health hazards in postwar France as his example. In "Thermodynamic Kitsch: Visuality, Computing, and Industrial Organization in German Industrial Films, 1928/1963," Vinzenz Hediger discusses the introduction of computing technology in German industrial production and its representation in industrial films, arguing that computing technologies induce a specific crisis of visibility in the representational strategies of industrial films.

Section III, "Films and Factories," comprises case studies of the use of film in specific corporations. In "Touring as a Cultural Technique: Visitor Films and Autostadt Wolfsburg," Patrick Vonderau discusses film and the visual strategies of the guided tour of Volkswagen's main factory in Wolfsburg, Germany, and proposes an analysis of the factory visit as a specifically modern "cultural

technique," i.e., a technique that transforms unproductive resources into productive ones. In "Corporate Films of Industrial Work: Renault (1916-1939)," Alain P. Michel traces the uses of photography and film at the Renault car factory, while Michel and his co-authors Nicolas Hatzfeld and Gwenaële Rot provide a companion piece to cover the rest of Renault's company history in "Filming Work in the Name of the Automobile Firm: The Renault Case (1950-2002)." Together, these two essays represent one of the very first comprehensive company histories with regard to the use of photography or film available to date. In "Eccentricity, Education, and the Evolution of Corporate Speech: Jam Handy and His Organization," Rick Prelinger traces the company history of one of the most prolific North American producers of industrial films, while Faye Riley's "Centron, an Industrial/Educational-Film Studio, 1947-1981: A Microhistory" provides another company history of a particularly tenacious provider of industrial-film services based on first-hand accounts and archival research. And finally, in "Films from Beyond the Well: A Historical Overview of Shell Films" Rudmer Canjels studies the relationship between film work and company policies of the Royal Dutch Shell corporation, one of the main energy corporations in the world, in a historical perspective.

Section IV, "See, Learn, Control," brings together five contributions that focus on aspects of film and governance. In "The Personnel Is Political: Voice and Citizenship in Affirmative-Action Videos in the Bell System, 1970-1984" Heide Solbrig analyzes the strategies of address employed by the educational films a major American telecommunications company produced with regard to a key policy issue of the past few decades, affirmative action. Ramón Reichert's essay, "Behaviorism, Animation, and Effective Cinema: The McGraw-Hill Industrial MANAGEMENT Film Series and the Visual Culture of Management," discusses the visual strategies of postwar US management-education films in light of ideologies of governance and control. In "Technologies of Organizational Learning: Uses of Industrial Films in Sweden during the 1950s" Mats Björkin shows how industrial lobby organizations used film to attune Swedish corporations to the new teachings of cybernetic management theory, while Valérie Vignaux traces the work of an industrial-education cinémathèque in France in "The Central Film Library of Vocational Education: An Archeology of Industrial Film in France between the Wars." Stefan Moitra dissects an important corpus of the film work of West German labor unions, a major factor in the Germany's postwar "economic miracle," in "'Reality Is There, But It's Manipulated.' West German Labor Unions and Film after 1945."

Section V, "Urbanity, Industry, Film," contains three essays that explore the relationship between film, urban planning, and industrial development. In his contribution on the city of Zlín and the Bat'a shoe factory in the Czech Republic Petr Szczepanik demonstrates how city planning, industrial organization, and

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media use, from telephone to film, were intricately intertwined in this model city built in the Moravian countryside in the 1920s. In "A Modern Medium for a Modern Message: Norsk Jernverk, 1946-1974, Through the Camera Lens," Bjørn Sørenssen discusses the Norwegian mining and steel town Mo i Rana, a key example of state planning in the postwar era and a prestige project whose changing fortunes can be traced through the film work devoted to the project. And finally, in "Harbor, Architecture, Film: Rotterdam, 1925-1935," a study of an early case of city branding, Floris Paalman shows how film played a major role in providing the port city of Rotterdam with a modernist self-image and implementation of the relevant architectural policies. Concluding the volume, the last section of our book combines an essay by historian and archivist Ralf Stremmel on potential future avenues of industrial film research with an annotated international bibliography of industrial film scholarship by Anna Heymer and Patrick Vonderau.

Finally, one omission in this volume needs to be addressed: The collection does not include an essay on Sovjet industrial films or from a socialist country. Being at the stage that it is, this area has as yet to be addressed in industrial film research. While we purposely wanted to avoid an auteurist approach to industrial rhetoric in classical Sovjet cinema, few if any scholars at this point have developed a sustained interest in the archival holdings of industrial films in the former Sovjet republics and former socialist countries of central Europe beyond the auteurist canon. At least judging from the case of the National Film Archive in Prague, these holdings are considerable and promise to be rewarding for future research.

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#### Notes

- Quoted in Mancur Olson, The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities (New Haven and London: Yale University Press, 1982), p. 21.
- 2. But how exciting such scholarship can be. See, for instance, Edward Dimendberg's detailed analysis of Alain Resnais' Le Chant du Styrène, which, for reasons of space, could not be reprinted here but should be consulted by the interested reader. Edward Dimendberg, "'These Are Not Exercises in Style': Le Chant du Styrène," October, 112 (Spring 2005), pp. 63-88.

- 3. "Uncharted Territory" was, of course, the title of a pioneering workshop organized by Daan Hertogs and Nico de Klerk at the Nederlands Filmmuseum in 1996 which set the pace and the agenda for the study of early non-fiction film. See Daan Hertogs, Nico de Klerk, *Uncharted Territory: Essays on Early Non-Fiction Film* (Amsterdam: Stichting Nederlands Filmmuseum, 1997).
- 4. See the conversation between Patrick Vonderau and Rick Prelinger in this volume.
- 5. We are referring to the notion of *dispositif* proposed by Michel Foucault rather than the *dispositif* of 1970s film theory, which refers to the material and technological conditions of film screenings and aims at a critique of the ideological implications of the screening.
- 6. For a detailed discussion of media as a prerequisite for the emergence of large-scale industrial production from the 19th century onward, see JoAnne Yates, *Control Through Communication: The Rise of System in American Management* (Baltimore: Johns Hopkins University Press, 1989).
- 7. For the concept of implicit knowledge see Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (New York: Harper, 1962).
- 8. The term "historical epistemology" is borrowed from Georges Canguilhem.

# I Navigating the Archive

## **Archives and Archaeologies**

## The Place of Non-Fiction Film in Contemporary Media

Thomas Elsaesser

I am not a specialist on industrial film. However, I decided to accept the invitation to make this contribution because I realized that there are at least three, possibly even four distinct areas of work that I am currently engaged in that touch upon – and indeed intersect with – the *Gebrauchsfilm* or utility film, of which the industrial film forms such an important corpus. My motto in this respect is that "there are many histories of the moving image, only some of which belong to the movies."<sup>1</sup>

## Media archaeology

First of all, there is a broad historiographic project I have been involved with. Its aim is to try to identify the different genealogies that make up the histories of the moving image in order to come to a fuller understanding of the different cultural logics and technological dynamics that both unite and separate film, television, video-installation work, and the digital media. Under the general title of *Film History as Media Archaeology*, I have been especially focused on isolating particular moments of media transfer and media convergence. The key ones we eventually selected are the period of early cinema from the 1890s to 1910, the coming of sound in the late 1920s and early 1930s, the emergence of television and video in the 1950s and early 1960s, and finally, the transfer from photographic to digital images in the 1980s and 1990s.

In each case – whether generically identified as actuality or travel film, current-events film or documentary, or still oscillating around more unstable classifications such as avant-garde, advertising, experimental, educational, propaganda, public-service film, or promo spot – the non-fiction film seems to have played either the role of *intermedia*, as appetizer, trial balloon, and lightning fuse, or it has existed as a legitimate but parallel cinematic universe – sometimes also called "Expanded Cinema," about which film history so far has been largely ignorant or deliberately silent.<sup>2</sup>

Another way of approaching this truly vast and uncharted corpus, to which the industrial film centrally belongs, would be to speak about the non-entertainment uses of the cinematic apparatus over the past hundred years. The Amsterdam project has been inventorying some of these non-entertainment histories of the moving image under what I have called the three S/M practices of the cinematic machine: surveillance and military applications, surgery and medicine, and sensoring and monitoring. I recently edited a book on Harun Farocki, where notably the first S/M practice, i.e., surveillance and military uses, is being extensively thematized.<sup>3</sup> Farocki, an increasingly well-known German media artist and theorist, has - in addition to his recent installations relating to the notion of surveillance (Ich glaubte, Gefangene zu sehen, Die Schöpfer der Einkaufswelten) - a long and exemplary filmography dealing with industrial films, training films, procedurals, test films, and aerial reconnaissance photography. A colleague of mine, Jose van Dijck, has written on surgery and medicine, in a study called The Transparent Body (2005).<sup>5</sup> Together with Lev Manovich I am also working on a project dealing with Augmented Space and Intelligent Surfaces, which will look at embedded information in our built urban and domestic environment, that is, the increasing presence of sensors and interactive devices which passively register our presence or provide information when actively accessed. Although none of these media archaeologies or S/M practices is specifically focused on the industrial film, I see our endeavor in this direction to offer potentially interesting insights and fruitful cross-referencing with scholars and archivists working on the industrial film.

## Cinema Europe

Another line of inquiry that has already obliged me to engage with the industrial film proper comes out of a four-year funded doctoral research project I set up for some 12 Ph.D. candidates, called Cinema Europe. Of the various subprojects, at least three are directly relevant to our topic. One is concerned with *Architecture, Urbanism and Cinematic City* in Europe. Floris Paalman's doctoral thesis is centered on the mediatization of Rotterdam over the past 60 to 80 years. Here, hitherto barely identified and virtually anonymous creators of the photographic and cinematic iconography of the city such as Andor von Barsy are given their due, e.g., for industrial films featuring the harbor, bridges across the Maas, and other public works. However, the point is not to unearth forgotten "auteurs" of the art of cinema, but to make a city the central reference point, indeed the veritable "auteur" of a body of work that crosses the media (film, photography, audio records) and genres (documentary, fiction, training, industrial, advertising), while providing something like a living memory and neural network for a major European city's changing self-image and media self-presen-

tation. A second sub-project concerns the intersection of industry, technology and the cinematic avant-garde during the period of the coming of sound. On this topic, Malte Hagener has completed a comprehensive re-examination of the leading avant-garde filmmakers' involvement with, among other things, commissioned films for large-scale engineering projects; political parties; companies in steel production, electrical appliances, shipping, tourism, radio, and other consumer goods and services.

The third project was a study that I myself conducted – in connection with the DFG research project Geschichte des Dokumentarfilms in Deutschland – of the nonfiction films made in connection with modern architecture in the 1920s, notably films associated with Das Neue Bauen and in particular, Das Neue Frankfurt. Again, the chief aim was to put a strategically located city - known for shipping, aviation, architecture, and finance – at the center of audiovisual production during a specific period of rapid growth and urban renewal. The somewhat surprising realization I came to was that conventional wisdom, namely that the architectural avant-garde and the cinematic avant-garde were natural allies and made for each other, turned out to be in need of some historical revision. When I looked at the (rather meager) result of this alliance, and began to speculate on the reasons for it, I realized that two assumptions were mistaken. One was that architects saw film as the most avant-garde and most appropriate medium to promote and propagate their ideas and work. It turned out that they invariably seemed to prefer still photography, well-designed books and pamphlets with modern typography, industrial catalogues and trade publications over cinema films. Even postcards seemed to have been a more congenial and certainly more popular advertising medium for modern architecture than film.8

The other assumption I had to question was that, if architects looked to the cinema as a medium, they would naturally prefer avant-garde film forms, such as Russian montage cinema or Dada collage films to the sober and conventional formats of the documentary or educational film. However, many of the films made about *Das Neue Bauen* fit much better into the then prevalent formats of the industrial film, the training film or possibly the Ufa Kulturfilm than the avant-garde or experimental film, with the exception perhaps of a film by Hans Richter, DIE NEUE WOHNUNG (1930). However, one of the films, DIE STADT VON MORGEN, an internationally very well-known film made in 1929/1930 and usually credited to one Dr. Max von Goldeck, turns out, on closer inspection, to owe its fame more to the animation work of the once more well-known though also notorious Svend Noldan than to the direction of the otherwise totally unknown Goldeck.

The case of Noldan, a brilliant animator of maps and graphics and a key figure in the history of the industrial film, the newsreel, and the propaganda film (who threw in his lot with the Nazi Party before continuing his career after the war with BASF, the successor of IG Farben), somewhat recalls the situation of both Walter Ruttmann and of Andor von Barsy. But he also reminds me of another figure, featured in a study done some years back by Martin Loiperdinger, around a symptomatic misunderstanding between an avant-garde filmmaker and his corporate client. The filmmaker was Willy Zielke, the client the Deutsche Reichsbahn, and the film was DAS STAHLTIER (1934). The direction of the Reichsbahn in Munich had wanted a film that celebrated the centenary of the German railway's achievements and advertised the amenities and comforts of modern rail travel. Zielke, a former cameraman with Leni Riefenstahl, on the other hand, saw it as his chance to make an avant-garde masterpiece, in the tradition of the Russian masters Eisenstein and Vertov, or inspired by the Bolshevik agit-prop trains that had pioneered new concepts of film projection, education, and display. The film, not surprisingly, was refused by the Reichsbahn, and for many decades all but disappeared. However, rather than the misunderstanding being one of politics - here the National Socialist Reichsbahn, there a crypto-Bolshevik filmmaker - I tend to think the clash was one of culture, between two kinds of modernism: between an avant-garde high-art modernism, of revolt and revolution, and an avant-garde of industrial modernism or commercial modernization, of advertising and design, serviced more by filmic modes modeled on industrial films than experimental style and formally innovative technique.

The conclusion I drew from my study of Bauen und Wohnen films was that, in examining a particular corpus of non-fiction films, it is perhaps advisable to suspend all pre-existing categorizations, such as they have evolved in film history around "documentary," "avant-garde," or "experimental," just as much as "advertising film," "fascist propaganda film," or "politically progressive" filmmaking. Rather, it is better to assume, in the first instance, that non-fiction filmmaking (but many fiction films as well), especially during the 1920s and 1930s, but possibly at other times as well, functioned as part of a Medienverbund. By Medienverbund I mean, in the first instance, a network of competing, but also mutually interdependent and complementary media or media practices, focused on a specific location, a professional association, or even a national or state initiative. In my case, the location for such a Medienverbund was the city of Frankfurt (or, in Floris Paalman's project, Rotterdam), but the Bauhaus can also best be understood as a Medienverbund, as can the agit-prop initiatives of the Russian Revolution. In the 1930s, the German Propaganda Ministry was an example of a state-controlled Medienverbund, since Goebbels had clearly studied the principles of the earlier (left-wing) media networks.

In other words, if today the political labels left and right have become questionable, so has the traditional avant-garde argument around media-specificity. Both seem unhelpful at best, if they are not revised in the direction of factoring

in the question of technological constraints and possibilities on the one hand, and the issue of institutions - industrial, party political, or governmental - acting as funding bodies on the other, in broadly conceived media offensives, aimed at influencing the newly mediatized public spheres. Networks of artists are, of course, familiar from avant-garde movements, such as Futurism, Expressionism, Dadaism, Surrealism. Its members often not only had close personal ties with each other (shared schools, shared wars, shared women), but especially in Europe, they tended to congregate or converge in nodal cities, notably Paris, Zurich, and Berlin, with the possible addition of Rotterdam, Frankfurt, Stuttgart, Dessau, and Vienna in the case of architects and designers. But what I understand by network and node in the concept of the Medienverbund would also include the creative energies bundled in company towns such as Eindhoven (headquarters of Philips), Jena (Zeiss), Zlín (Baťa works) and no doubt Essen, Bochum, and Wuppertal as well. There, filmmakers often found work in the areas of research and development, as well as in the design and advertising departments. Avant-garde directors like Walter Ruttmann, Joris Ivens, George Pal, Alexander Hackenschmidt were able – through company commissions – to make use of the latest technical equipment and the resources, and to develop new film forms, for instance, in the fields of animation, the combination of live action and trick photography, or special effects. In addition, once one adds some of the other S/M practices I mentioned, such as the use of film/moving images for recording processes and documenting phenomena of the natural sciences, such as biology and zoology, then other networks and nodes become visible. For instance, once one locates some of the films made at the intersection of science, entertainment, and education (as represented in Germany by the Ufa Kulturfilm), then filmmakers such as Jean Painlevé in France, J.C. Mol in the Netherlands, Martin Rikkli, and Svend Noldan in Germany emerge as auteurs, part of another avant-garde in their crucial role as formal innovators, but also as pioneers in extending the uses and applications of the cinematic apparatus.

In this more historio-pragmatic, as opposed to essentialist, perspective I tried to summarize in the rule of the three A's that need to be applied to a non-fiction film when trying to classify it, but also when attempting to read and interpret it. These A's are "wer war der *Auftraggeber*" (who commissioned the film), "was war der *Anlass*" (what was the occasion for which it was made), and "was war die *Anwendung* oder der *Adressat*" (to what use was it put or to whom was it addressed). These are, you will have realized, precisely the questions avantgarde artists or documentary filmmakers do not wish to be asked or routinely refuse to answer, since they fear it compromises their standing as auteurs and artists. Histories of the documentary film have often in the past been motivated by a desire to carefully write out of their accounts of auteurs, of styles and movements, any evidence of the industrial or commercial sponsorship, institu-

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