

LOST AND LIVING (IN) ARCHIVES

Collectively Shaping New Memories

Annet Dekker (ed.)

Making Public

Valiz

FROM THE CELLAR TO THE CLOUD

The Network-Archive as Locus of Power



Manu Luksch

Our dream rewired. Telephone switchboards, radio valves, television tubes integrated. Their logical culmination: the computer. The device of our times, a magic mirror that reveals what is to come. Our powers of prediction grow with every new circuit crammed in. Leap into tomorrow—one trillion calculations a second.

And it grows more powerful, becomes smaller. Smart, mobile, personal. Today—in our pockets. Tomorrow—woven into our bodies.
—*Dreams Rewired*, narration

You read this article, as I write it, very probably with a 'smart' device within reach—a general-purpose machine that bestows a natural extension of ourselves into networks of communication and information, which are perhaps soon to be networks of cognition. This enhancement is not just limited to our becoming users of the internet, nor to us becoming users at all. For these information networks also track our travelling, web-browsing and purchasing habits, for example, as gleaned from the metadata that we unconsciously, but continuously, write; thus the power of third parties (such as corporations) is also enhanced. The data sequestered in these networks (sometimes called 'Big Data')

Still from *Dreams Rewired*
(Luksch/Reinhart/
Tode, 2015); *Hände: Das
Leben und die Liebe eines
zärtlichen Geschlechts*
(Miklós Bándy, Stella
Simon 1927-28)



constitutes a user-generated archive. Conversely, as I will show, the archive absorbs the communication networks connected to it—just as it absorbs the standalone devices needed to read its contents. This assimilation of the network, I argue, emphasizes the function of the archive in controlling knowledge, over its traditional role of being ‘neutral’ storage.

The film essay *Dreams Rewired* (2015), directed by Manu Luksch, Martin Reinhart and Thomas Tode, is an assemblage of more than 200 films from the 1880s to the 1930s, many rare, some previously unscreened; they range from the earliest dramatic works to music hall slapstick, newsreels, marketing materials, recordings of scientific experiments, and artistic explorations of film as medium. One major trajectory through *Dreams Rewired* traces contemporary (network-induced) appetites and anxieties back to the birth of the electric age, illustrating how the psychological and social convulsions of today’s hyper-mediated world were prefigured in the electric media boom of the late nineteenth century. Not only is *Dreams Rewired* itself an archive, of depictions of the hopes and fears for a connected electric future, the central process in its making was the consultation of over fifty public and private media archives around the world.

Even the idea of making the film *per se* stems from the accidental discovery in an archive cellar of shellac discs, which upon inspection turned out to hold the (presumed lost) soundtrack to Eisenstein’s *Battleship Potemkin* by Edmund Meisel.



Battleship Potemkin, and the disc that started it all Nadeltonschallplatte/sound-on-disc (number 3 of a set of 5 discs) of *Bronenossez Potjomkin* (Sergei Eisenstein, 1925) with soundtrack by Edmund Meisel, recorded in 1930, and rediscovered in 2002; restored and published as ‘Wiener Fassung’, 2014. Technisches Museum Wien.

‘Track, record, freeze the trace—then tune, control, accelerate.’

—*Dreams Rewired*, narration

In *Dreams Rewired*, the archive is not only a bridge to the past, but also a bridge to the future—to the future as foretold through early science fiction film, and also to a future scientifically predicted by the high-speed serial photography and time-and-motion studies of Étienne-Jules Marey.

Marey developed high-speed cameras to arrest flow—in particular, animal locomotion—for analysis. Applied to human actions, the technique turns into a tool for optimization. Marey's work occupies a fork in media history, contributing equally to pre-cinema and the pre-algorithmic. His analyses turned on a geometric abstraction of motion, tracing the trajectories of points and lines attached to the subject of study. In a study of Marey as 'artist-scientist of space-time', media and film scholar Stephen Mamber describes other pioneering techniques,

methods to graph a wide range of phenomena, from train schedules to weather, to sounds, to periods of war and peace. ... Marey was concerned with how to represent change. ... The brilliant Marey chart was a database made strikingly visual through a recognition of pattern repetition (Mamber 2004, 84).

Traversing this bridge into the future, *Dreams Rewired* projects us into a world where the ability to quantify, analyze, and predict is refined, automated, and applied to all areas of human action, behaviour and endeavour—from the daily gym workout to traffic control and crowd management, from energy consumption to the academic achievements of schoolchildren, from spring colour trends in teen fashion

Still from *Dreams Rewired*
(Luksch/Reinhart/Tode,
2015): *Marche jambes
seules d'une homme*
(Étienne-Jules Marey, 1893)
Étienne-Jules Marey's
chronophotographic films
have been restored dig-
itally and transferred
onto 35mm film by the
Cinémathèque française,
who owns these scores.
Archive: La Cinémathèque
française.



to the habits of potential terrorists. In a world increasingly managed by algorithm, power lies with those who have knowledge of the algorithms and the data—particularly of the input data (since categorization and measurement are far from assumption-free or neutral).

Interrogating the Archive

Research to identify possible source materials for *Dreams Rewired* spanned ten years, and involved visits to archives around the world, discussions with historians and theoreticians, and consulting indexes and other literature. But the sifting through hundreds of hours of material to discover key scenes, and the hunt for films known to have once existed, were relatively straightforward compared to the work of seeking out the appropriate rights-holders and negotiating a licence. Once the archive that held a particular source was identified—not always an easy task—and a viewing copy obtained (or a visit undertaken), it was necessary to identify the holder of exploitation rights in the material. On occasion, this would be the owner of the physical media, often it was another party unrelated to the archive, some works were in the public domain, and some works were 'orphans'—without any known claimants.¹ When a work existed in several versions or in several different media, the issues were further complicated.

¹ Orphan works can be quoted provided that an adequate effort has been made to locate any claimants, and that a potential future claim by a rights-holder who emerges subsequently is insured against.

² The examples below were collated through discussion with Martin Repka, post-production manager, Carla Zamora, one of the team's archival rights researchers, and Mukul Patel, UK co-producer.

In what follows, I describe the forces and constraints that determined access to source material during the making of *Dreams Rewired*, and suggest that useful analogies can be drawn between the struggles depicted within the film or the struggles to obtain source material, and the struggles over ownership and control of data in our user-generated archive.²

1. The Cost of Search

The US Library of Congress has, since 1942, collected prints of motion pictures, as part of its stated mission

to 'further the progress of knowledge and creativity for the benefit of the American people'.³

Upon request, the Library will determine whether a particular film is available, in which format, and who holds the copyright. But even a simple search through the records (in the associated Copyright Office) can have substantial costs:

Searches of the records of the Copyright Office are provided at the statutory fee of \$165.00 per hour with a minimum of two hours. The search that you requested would consume more than two hours. If you desire a written estimate for a search, a flat estimate fee of \$115.00 is required. If you prefer, an initial payment of \$330.00 can be made and one to two hours of search service provided. Fees for any additional monies necessary for the completion of the search and report would be communicated with the patron, and if the additional records search time is desired, payment rendered at that time. (by email)

Upon commissioning a 'written estimate for a search', the following response was received (after two months):

The written estimate for the copyright status ... has been assigned and is in process. The Records Research & Certification Section of the Copyright Office is experiencing backlogs of work due to severe staff shortages related to efforts of the Office to comply with the federal government's efforts to reduce spending. This situation has impacted our workload and turnaround times. We regret

any inconvenience that this may cause.
(by email)

Given that the requested items were not in the public domain, further information was necessary, which could be obtained via one of three options:

- 1 'registrations and possible renewals' of the three titles, additional remittance of \$215
- 2 a 'complete history on the possible transfers of assignment for these works', additional remittance of \$495 for about 3 hours of search
- 3 a 'complete history of the copyright status for these works', additional remittance of \$710. (by email)

On further inquiry, it turned out that only the last option would indicate the 'current copyright holder', and moreover, that the contact details given would not be guaranteed to be correct. Despite the high costs of enquiry, comparable to commercial services, the Library was clearly running on a typically stretched governmental budget:

Unfortunately, our database is currently inoperable due to technical issues. We are working closely with our maintenance contractors to figure out the problem and bring it back online. It's caused some unforeseen delays and your order is one of them. (by email)

2. The Commodification of Public Media

At the core of *Dreams Rewired* is the claim that to understand the nature of the contemporary networked-computational mode of being, it is necessary to understand its roots in the



Imagine...—and then
there was Television
Still from *Dreams
Rewired* (Luksch/
Reinhart/Tode, 2015)
Archive: BBC Motion
Gallery/Getty Images

4

There are few recordings extant from early television broadcasts, because programmes were produced as live events for transmission, and their preservation was never intended. Moreover, video recording technology developed only later, and recordings could only be made using a separate film camera. The BBC began to prerecord programmes onto videotape only in the late 1950s, but once a programme was transmitted the tape would be reused.

televisual utopias imagined at the turn of the twentieth century. Where better to search for documentation of early televisual experiments than in the archives of the British Broadcasting Corporation (BBC)? After all, it was in Britain that television technology gathered significant momentum, culminating in the first high-definition (for the time) public broadcasting programme.

Despite the BBC being a public service broadcaster whose operations have been, and still are, funded by taxpayers and viewers, the archive of early broadcasts is not exhaustive,⁴ and distribution of historical material is currently handled mainly by third parties. While I was in dialogue with the Motion Gallery (a BBC archive) in 2013, the BBC was negotiating an exclusive distribution deal with Getty Images. As a result of this outsourcing, the cost of licensing increased significantly compared to when the archive was still administered in-house. In many cases of historical productions, the BBC is not (or not any longer) the rights-holder, and is often not even aware of who the rights-holders are. Even the copyright in the film of Adele Dixon's song 'Magic Rays of Light/Television Song', commissioned for the inaugural broadcast of the BBC Television Service using the Marconi-EMI system in 1936 (and of obvious significance for corporation and country), is not held by the BBC.

However, there are strong initiatives, not least from within the BBC, for positive change in archive management. Controller of Archive Development Tony Ageh envisions a Digital Public Space that is

equally accessible by everyone ... dialogic, open and protective of the rights of all participants and contributors ... available at all times and in all locations. ... Every person in this country, whether adult or schoolchild, should be able to use the Digital Public Space ... for research or for amusement, for discovery or for debate, for creative endeavour or simply for the

pleasure of watching, listening or reading ... they should be able to access the priceless treasures that have recorded, reflected and shaped our shared national heritage.⁵

5

From a speech given
at Royal Holloway
University of London,
10 February 2015.
Edited version at: [www.
opendemocracy.net/
ourbeeb/tony-ageh/
bbc-licence-fee-and-
digital-public-space](http://www.opendemocracy.net/ourbeeb/tony-ageh/bbc-licence-fee-and-digital-public-space).
Accessed July 2016.

3. Licence to Thrill—Representing Jazz

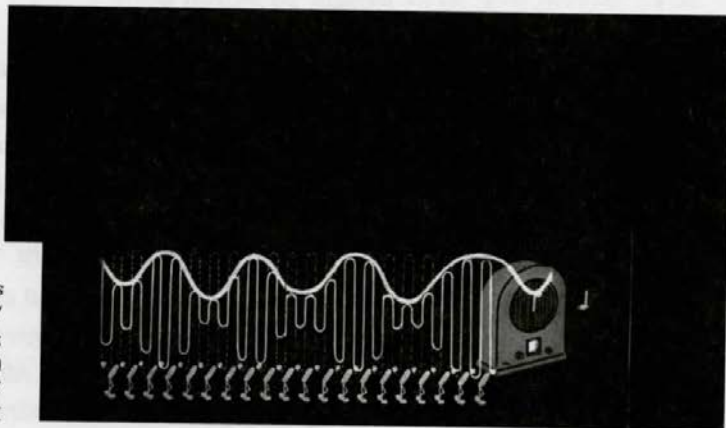
Before the broadcast spectrum had been apportioned between public service and commercial stations, amateur radio transmissions met and drove popular demand for music. Radio played a key role in the promotion of African-American music in the US of the 1930s. Jazz, or 'hot music', was associated with unrest—race riots, labour activism—and lasciviousness, stoking white parents' fears for their children's 'purity'. Broadcasts could pass invisibly through walls, granting jazz music an audience in suburban homes. There arose a fear that black voices could use radio to lead the nation by its ears, sabotaging the solemn project of homogenizing culture.

This controversy was reflected in films such as the live-action/animated musical short, *I'll Be Glad When You're Dead, You Rascal You*,⁶ starring the glamorous cartoon character Betty Boop. Effectively a 'music video' for the song by Louis Armstrong, it depicts Armstrong first as performer, and later as 'savage' protagonist of the song's story.

6

Produced by Max Fleischer
(1932). [https://
archive.org/details/
bb_ill_be_glad_
when_youre_dead](https://archive.org/details/bb_ill_be_glad_when_youre_dead).
Accessed July 2016.

Still from *Dreams
Rewired* (Luksch/
Reinhart/Tode, 2015):
Unsichtbare Brücken (1932)
Archive: Bundesarchiv/
Transit Film GmbH



The Library of Congress confirmed that the animation was in the public domain, but not the music rights. The song was published by EMI, and Okeh Records (now part of Sony) had pressed records. However, this recording differed from the version used on film. In his discography of Armstrong, Jos Willems deduces that the music recording was probably carried out during the shoot at Paramount's Eastern Service Studios (Willems 2006).



*I'll Be Glad When You're
Dead, You Rascal You*
(Dave Fleischer, 1932)
Animated by Willard
Bowsky, Ralph Somerville;
recorded by Louis
Armstrong and Orchestra
Archive: Library of Congress

Paramount confirmed they could grant a licence for use of the sound recording, at the rate of \$3,500 per minute. Although high, the fee could be met from the budget. However, it '[would only cover] the rights Paramount controls-third party rights (which include music) clearances and applicable payments remain your responsibility' (email, 28 February 2014). Further searches revealed that the underlying musical rights were held by the Louis Armstrong Educational Foundation, Inc., which also 'owns all the intellectual rights for the use of Louis Armstrong's voice, likeness, image and the personality attached thereto'.
(email, 16 March 2014)

Prior to granting a licence, the Armstrong Foundation requested information on the context in which the soundtrack would be used. Eventually the path was cleared for a telephone conversation in which they submitted an offer: for the thirty-five second excerpt in question, the Foundation intended to charge a fee of \$75,000!

It was beyond the available legal and financial capacity to pursue the acquisition any further; hence, the entire sequence on the impact of wireless on African-American music had to be regretfully cut. Paradoxically, the entire animation

remains free to view online at archive.org, where, over the years, a lively discussion has unfolded. Users converse in a public forum, with most comments referring to the bizarre juxtaposition of a legendary African-American musician as a force to be reckoned with, and racist caricatures populating the image.

4. Point Blank

Most archives were willing to negotiate fees and licence conditions, but in some instances, it became clear that no amount of money or reasoning would suffice to give access to material. In *Körkarlen* (1921), a film notable for its special effects, director Victor Sjöström uses double exposure to depict the departure of the soul from the body after death. In *Dreams Rewired*, the trope is reappropriated and transformed, with film itself standing in for the soul that survives the death of the actor. The holders of the copyright in *Körkarlen*, AB Svensk Filmindustri (part of the Bonnier Group, the media major in the Nordic region), were unconvinced by this interpretation. In a communication to the rights researcher, they explained that they

never grant permission for such widely-spread use as you have asked for and never free of charge. There must also be a connection to the film you would like to use excerpts from, excerpts cannot be used as just an illustration.

(email, 16 December 2013)

A flurry of emails later, and a final attempt elicited the rather righteous reply:

Thank you for your e-mail.

This is to confirm that we, AB Svensk Filmindustri, are the sole owner and

copyright holder for the film *Körkarlen/*
The Phantom Carriage from 1921 and that
applies to all versions of the film.

We have informed you two (2) times earlier
that we will not grant you the right to
use excerpts from the above mentioned film
in your documentary film and we will not
change that decision.

Please respect this decision!

Regards,
AB Svensk Filmindustri
Rights Department
(email, 16 December 2013)

5. A Political Football

The International Olympics Committee (IOC) imposes many conditions on a hosting city, including the requirement to produce a feature-length film about the event. In 1936, the Olympics were hosted by Berlin, which was under National Socialist rule. Leni Riefenstahl, who had made her mark with the propaganda film *Triumph des Willens* (chronicling the 1934 Reichsparteitag/Nazi Party Congress in Nuremberg), was commissioned to document the event. Her resulting *Olympia* (running to over four hours) continues, on the basis of its aesthetic vision, to be highly influential. Since a post-war edit to remove the most blatant propagandistic aspects, the film is permitted screenings even in Germany—unlike *Triumph des Willens*. (It was most recently broadcast in the UK on the occasion of the 2012 London Olympics.) However inconvenient the fact might be, *Olympia* has become a key part of German cultural heritage.

Riefenstahl claimed the rights to the film after the war, but the Bundesarchiv (state archive) disputed this claim, on the basis that her production company, in whose name

Tradition—designed
for television
Still from *Dreams
Rewired* (Luksch/
Reinhart/Tode, 2015):
Schreibendes Licht (1937)
Archive: Bundesarchiv/
Transit Film GmbH



she made the claim, was merely a front for the Nazi Party (Rodek 2013). In 1964, the dispute was settled with a contract that gave all exploitation rights to Riefenstahl, with a 30% share of the profits to the Bundesarchiv. Crucially, and unusually for the time, Riefenstahl maintained the sole right to decide where the film could be shown—and did on at least one occasion refuse screening permission to an anti-Nazi group. Why the Bundesarchiv gave up control so willingly is a matter of speculation; according to Hanns-Georg Rodek, chief film critic of *Die Welt*, one possibility is that it was squeamishly avoiding the responsibility of determining where *Olympia* could be shown.

In 2002, when Riefenstahl was already 100, she attempted to sell her rights in *Olympia* to the IOC, which had set out to purchase its entire history on film. Given its cultural significance, the film should rightfully have been regarded as Kulturerbe (cultural heritage), which would place it under protective legislation⁷ and prohibit such a sale⁸. In direct contravention of this legislation, and likely without due consultation, the then German Chancellor Gerhard Schröder agreed to let the sale take place. Rodek speculates that Schröder's motivation was two-fold—to rid the Republic of an inconvenient, ambiguous work that could be seen as 'Kulturerbe', and to enhance the prospects of Leipzig's bid for the 2012

7 Zum Schutz deutschen Kulturerbes gegen Abwanderung,

8 When a US company expressed interest in buying 3,000 films from the Nazi era controlled by the Bertelsmann group (for whom they had no commercial value), a foundation, the Friedrich Wilhelm Murnau Stiftung, was invested to keep the films in Germany.

Olympics. If the latter was his gambit, it failed—Leipzig lost the bid six months after the sale. The IOC now charges a licence fee of €30,000 per minute for the film.

6. Chasing the Tail

As the rights researcher for *Dreams Rewired* found, rights clearance often becomes particularly arduous after the death of the director, upon which the copyright for the subsequent seventy years is transferred via inheritance. How, in such cases, does one go about locating the rights-holder, who might have no interest in the director's estate?

Seeking the works of one particular avant-garde director of abstract films, the researcher obtained contact details of a remote relative from an archive, but received no response by phone or email. Subsequently, on consultation, several other archivists maintained that this relative had in fact died. After weeks of investigation, the woman in question was finally located—alive, well, and willing to issue a licence.

A similarly difficult situation arose in the case of the classic René Clair film *Paris qui dort* (1925). The likely rights-holder had been identified as Clair's son, but he had not responded to any emails. Around that time, the researcher was also awaiting response from the LightCone archive regarding the rights for Henri Chomette's *Jeux des reflets et de la vitesse* (1925). LightCone explained that the month-long delay was due to the current rights-holder being rather old and hard to reach. It was then that I recalled that 'René Clair' was the nom de plume of a certain René-Lucien Chomette—Henri Chomette's brother. Could it be that Clair's son and the rights-holder for Chomette's film were one and the same person?

Le 02/06/2014 01:55, manu luksch a écrit:

Dear Emmanuel,

Thank you again for all your efforts to

make it possible to use an excerpt of *Jeux des reflects et de la vitesse* in my film.

...

When you mentioned that the rights holder is an elderly person, difficult to reach, I wondered if it is Henri Chomette's nephew, Monsieur Jean-François Clair? I ask because I'm also trying to obtain permission to use the film *Paris qui dort* by René Clair, and I was given an email address for M. Jean-François Clair.

With best wishes,

Manu

On 3 Jun 2014, at 10:58, Emmanuel Lefrant wrote:

Dear Manu,

Yes indeed, we're talking about J.F. Clair.

My colleague Christophe usually reaches him by calling him directly, which is much more efficient I believe. Do you want us to send you his

phone number? Do you speak French?

Best,
Emmanuel

In this case, a mixture of luck, observation and deduction led to successful communication with the rights-holder, who licensed the works.

7. An Archive Hostage I: Economic Crisis

Occasionally, an archive became hostage to its own regulations and to the prevailing economic situation.

The Filmoteca de Catalunya holds the largest collection of films by Spanish director Segundo de Chomón (1871–1929).

The Filmoteca had provided screeners for several titles, all of which had been selected for *Dreams Rewired*. Although the archive was willing to agree to licences, it was unable ‘for an unknown period of time’ to provide any high-resolution copies. The Spanish economy was in a crisis brought on by the 2008 crash; cultural spending had been slashed, and the Filmoteca’s laboratory was one of the victims. Offers to arrange for duplication at other trusted labs elsewhere were turned down since, understandably, they did not permit fragile negatives to be removed from the building.

It appeared as if de Chomón’s highly original, poetic and technically refined films would remain locked out of circulation. Further research eventually turned up copies of some of the films in other archives, but a key work—*Le Miroir Magique* (1908)—could not be found elsewhere. Luckily, only a few days prior to finalizing the edit of *Dreams Rewired*, the transfer facility at the Filmoteca reopened, and this film made the cut.



Still from *Dreams Rewired*
(Luksch/Reinhart/
Tode, 2015): Paris qui
dort (René Clair, 1924)

8. An Archive Hostage II: Use the Back Door

During a critical period of the making of *Dreams Rewired*, one significant public archive of historical photographs and film (which, for reasons that will become obvious, cannot be named...) undertook a major adjustment of the copyright status of its holdings—a process that would take many months. The good news was that at the end of this process, much of the material would enter the public domain; the bad news was that no sales would be permitted in the interim period—the archive would remain locked:

Chère Manu,

Merci pour votre message. Nous n'avons toujours pas de tarifs pour l'utilisation, en raison de la tombée dans le domaine public de certaines images de nos fonds, dont justement les films.

C'est pour cette raison qu'il m'est difficile de répondre à votre question!

Je vous remercie par avance de votre compréhension et de votre patience!

Bien cordialement,...
(by email, 4 March 2014)

As far as clearing usage for *Dreams Rewired* was concerned, the window of opportunity was closing—to rely on the material becoming available at some unspecified future date was too risky at this stage. A last attempt to obtain the licence was made:

Gibt es etwas bestimmtes, dass ich tun kann, um dem Prozess zu helfen?

Würde es helfen, wenn ich das Archiv besuche, um den genauen Timecode der Ausschnitte zu recherchieren?

...

Das Material ... ist natürlich für das Gelingen des Filmprojektes sehr wichtig, und ich hoffe, daß wir eine kreative Lösung finden können!

Vielen Dank nochmal, mit herzlichen Grüßen,

Manu Luksch

Regisseurin

(by email, 14 July 2016)

Following the above email and several telephone calls, a 'creative solution' was arrived at. The contracts would be pre-dated to before the archive's copyright transfer process, and the files would be made available for collection at the back door—literally. It was time to call in a secret agent:

Hi Bob,

It's such a crazy thing ... for the film I'm working on (I remember vaguely mentioning it when we were in touch last time), we will have to pick up recordings discreetly ... We've been in dialogue with the researchers and sales since many years, but one year ago, they had to freeze all requests for footage licensing due to some administrative reorganisation.

Still from *Dreams Rewired*
(Luksch/Reinhart/Tode,
2015): *Le miroir magique*
(Segundo de Chomón, 1908)



[redacted], whom you will meet (please pass on my regards and thanks to him) knows ... that my film has become a victim of this frozen situation ... [and] will hand over files to you, about which no-one else in the building should know. A real secret agent mission, I'm telling you! It's nothing improper/problematic/illegal though, since we ordered and paid for the footage a long time ago. ...

I'm really happy that you can go, because in the worst case I would have needed to jump on a train tonight, as this 10AM rendez-vous was offered at such short notice. This is my last chance to get the footage into my film! Thank you!!!

Manu

(by email, 16 July 2014)

The agent, duly unfazed, replied:

Sounds like a clear plan. Will files be on USB? I assume [redacted] has my name.

Probably good if you are standing by your phone at 10AM in case I need guidance. Over and out.

Print this msg; burn it and eat the ashes.

Sent from my iPhone
(by email, 16 July 2014)

In such an intractable situation, it's worth remembering that while regulations govern institutions, it is people who actually run them. Here, a bureaucratic impasse yielded to the exercise of charm, perseverance, and (on the part of our agent) sheer courage.

The Network-Archive as Locus of Power

'Our time is a time of total connection. Distance is zero. The future is transparent. To be, is to be connected—the network seeks out everyone.' (*Dreams Rewired*, narration)

As illustrated by the above examples, the search for source materials for *Dreams Rewired* reveals how the archive, far from being a neutral repository, is an instrument for controlling knowledge and directing power—devolving it to the wider population, or concentrating it—as well as for simply making money. National collections, copyright libraries, and

The televisual
Still from *Dreams Rewired*
(Luksch/Reinhart/Tode,
2015): Dr. Ams Tram
Grams Kikkert (c. 1907)
Archive: Sveriges
Television AB



open-access web-based archives arguably do maintain some semblance of neutrality or openness, but even in these cases, the cost of access to works can be prohibitive.

In 2001, the passing of the USA PATRIOT Act threatened the constitutional rights and privacy of all Americans, and in particular of library users. In response, librarians organized under the American Library Association, to defend readers' civil liberties against unwarranted state intrusion. Passing to the electronic online library provided by Google, or via a device such as an Amazon Kindle, a similar defence cannot so easily be mounted. In fact, unless readers take exceptional steps to anonymize themselves, their reading habits are being shared with interested parties, and in greater detail than they might imagine possible.

With the 'algorithmic turn'—towards a society under automatic management, with an urban fabric pervaded by computing—archive and network draw ever closer, and the role and identity of the archivist changes too. Traditionally, archivists acted as guardians and gatekeepers of a collection, cataloguing and managing the rights of third party creators as necessary. Today's automated network-archivists instead collect and trade in *user* behaviour.

Acts of reading, viewing, and so on create what is now considered the more profitable commodity: user metadata. The archive of interest to users (a repository of books or films, for example) is not the same as that of interest to the automated archivist. And the value of the archive *per se* has manifestly shifted from its being a bridge to the past, to its becoming a tool for predicting the future.

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