5.0 From Figures to Figurations – The Subjective Projections of Cinephilia and Data Art

In this final short chapter which leads up to my dissertation's conclusion, I would like to offer an additional reflection on my last dissertation question: how do scholars develop reflexive approaches to show ambiguity, contingency and uncertainty of historical interpretation? As I discussed in my dissertation introduction, this question reflects my alignment with a meta-historical stance, which, to lend film scholar Philip Rosen's words, seeks to "knowledgeably confront the instabilities of the relationships that modern historicity establishes between past and present".\footnote{Philip Rosen, op.cit., 353-354.} As I argued in the introduction and in Chapters Three and Four, this stance seeks to restore what I consider one of the fundamental tasks of the historian, namely to highlight the enigmatic and contingent nature of history making, by exposing its different temporalities and material conditions of production and interpretation. In line with de Certeau's conception of computational history as a "science-fiction" this implies repoliticising digital methods by challenging received ideas of science and assumptions embedded in them to question their circumstances of production, the reductionisms of formalised procedures as well as one's own positionality.\footnote{Michel de Certeau, op.cit., 1986b, 208.}

In Chapters Three and Four I argued that a variety of reflexive approaches in film historical stylometry and socio-economic history are emerging along these lines. With regard to cinemetric approaches, I suggested that an emerging strand of "humanistic" cinemetrics could be discerned, which, branching out from Exploratory Data Analysis, engages with artistic strategies of visualisation. Furthermore, I discussed how new cinema historians, to similar ends, lean upon discussions in human geography and the social sciences to create visualisation formats which challenge the empiricism of scientific GIS, by engaging especially with Grounded Theory. These methodological developments have opened significant avenues for producing reflexive perspectives on film history's contemporary mediations in digital dispositifs. Yet, I think there are several aspects in which they can and should be developed further, not as rigorous methods, but to nurture a general attitude with which to keep our minds open when developing new research agendas with them. In particular, I wish to suggest two future developments.

The first suggestion is that digital, data-driven scholarship should forge stronger links to the anecdotal and idiosyncratic perspectives of cinephile, surrealist historiography and Apparatus
theory. Currently the historiographic perspectives of these theoretical strands tend to be excluded in the digital dispositifs I have discussed and I believe it would be productive to seek combinations with them. A trait which unifies the methods discussed in Chapters Three and Four is that they privilege formalised research procedures which to some extent limit the anecdotal, subjective stances of the founding cinephile histories. Arguably, this is most prominent in cinemetric methodology which, departing from Petric’s and Salt’s propositions, seeks to eliminate the subjective gaze's unruliness and fragmentary analysis, in favour of statistical accuracy, rigorous data collection and empiricism. To a certain, but lesser, extent, this also characterises New Cinema History's opposition to symptomatic, close readings of individual or selected corpora of films in favour of the analysis of consumption and exhibition patterns. While these research traditions are developing reflexive approaches – respectively EDA-inspired cinemetrics and cartographic visualisations rooted in Grounded Theory – their exclusion of these perspectives can also be taken to, perhaps inadvertently, create proceduralisms of their own. In particular, I find that by critiquing cinephilia's and Apparatus theory's anecdotal and idiosyncratic historiography and by focusing on very specific aspects of style, exhibition and distribution, that these traditions' digital dispositifs exclude potentially productive perspectives on data analysis from the former. Evidently, I do not believe one can nor should expect these distinct traditions and their dispositifs to be comprehensive. Yet, I do feel that they might benefit greatly from including perspectives from cinephilia and Apparatus theory's close, critical readings to further call into question their own assumptions and the procedures underlying their visual analytics to challenge analytical reductionism. Furthermore, I consider the current moment in which cinephile theory and historiography is experiencing a reinvigoration in film studies, marked by the emergence of the scholarly audiovisual essay, particularly fruitful for considering such combinations. With this in mind, my first suggestion is that the traditions I discussed in Chapters Three and Four should forge links with cinephilia's anecdotal and idiosyncratic observations by mixing quantitative methods, visual analytics and annotation with audio-visual essay production. To illustrate how this could be done, I will discuss the relevance of the audiovisual essay's historiographic perspective to then point to a couple of examples which I take to indicate possible ways of combining methods in the future. Such combinations could, I suggest, tentatively be qualified as Cinephile Anecdotal Data Analysis.

The second suggestion is to rethink the ways in which media art, film heritage institutions and film historiography can critically inform each other today. In this regard, I argue that we need to produce critical reflections on visual analytics by reinvigorating a dialogue between academics,
archivists and artists – the “three A’s” as Elsaesser calls this constellation - which was inaugurated in the 1970s.\footnote{Thomas Elsaesser, op.cit., 2009, 33.} As I discussed in Chapter One with regard to early cinema studies, referring to André Habib, film historiography has for decades been dependent on an interpretative dynamics produced within a network of “historians, restorers, archivists and experimental filmmakers” which creates a “movement back and forth between historical understanding of the past and its reactivation in artistic works [which] is essential for illuminating our knowledge and enriching our experience of film history”.\footnote{André Habib, op.cit., 2013, 151.} I observed that found footage filmmaking has been given prominent attention in the archival film festival circuit and in film heritage institutions as valuable forms of appraisal which self-reflexively highlights the specificities of films' current mediation and our present interpretation of them. To elaborate on Habib's point from the perspective of theory of history, this also ties in with a meta-historical stance which especially postmodern historiography has nurtured, which tends to value expressions of history in artistic representations for their ability to draw attention to the contingencies of our present interpretations.\footnote{Hayden White, “Postmodernism and Historiography” Special Public Opening Symposium "After Metahistory: Lecture on Postmodernism by Professor Hayden WHITE", Ritsumeikan University . See: \url{http://www.ritsumei.ac.jp/acd/gr/gsce/news/200901022_repo_0-e.htm}, last accessed January 24, 2017.} Moreover, as argued by philosophers of science Caroline A. Jones and Peter Galison, art and science tend to intersect more productively than we often think.\footnote{Caroline A. Jones and Peter Galison, op.cit., 1998, 2.} Though often depicted as each other’s binaries, where science is perceived to allow for discovery and art for invention, their intersections nurture multifarious research avenues by letting them critically inform each other.\footnote{Ibid.} To renew the dialogue between the three A’s, I argue that it is necessary to recognise that digital film historiography currently lags behind new developments in media art and needs to be reinvigorated by embracing new developments and rearticulating a critical relationship to them. This argument builds on observations I made during the final stages of my research in which I noticed how appropriations of scientific visual analytics in data art began to nourish film historical reflections among amateurs, artists and scholars, in a manner where they did not fulfil a role as visual evidence within rigorous, deductive methodologies. Used in an almost diametrically opposite manner of for instance cinemetric pattern-seeking, I took these examples to gesture towards ways in which film historians might in the future inquire into the shifting mediations of film historiography with media art, to question their own preconceptions and techniques.
The chapter falls into two sections. The section *Cinephile Anecdotal Data Analysis* attends to the anecdote's function in contemporary cinephile, audiovisual essays and annotation software to argue that these formats' idiosyncratic approaches and close readings may provide a productive historiographic counterpoint to visual analytics' evidentiary images and pattern-seeking. I consider in particular the scholarly audiovisual essay platforms *Audiovisualcy* and *[in]Transition* in relation to the cinephile and surrealist-inspired theories of appropriation and history of Laura Mulvey, Catherine Grant and Christian Keathley, arguing that their subjective analytical approaches to editing may provide a fruitful foundation for an anecdotal form of data analysis. In light of this discussion, I reflect on two key examples – the annotation software Lignes de Temps and Kevin L. Ferguson's audiovisual essay *Volumetric Cinema* (USA, 2015) – which I take to suggest fruitful approaches to data analysis along the lines of cinephile theory and historiography.

In the second section, *Data Visualisation as Artistic Research*, I attend to contemporary media art to argue that scholars may become aware of the limitations of computational procedures and challenge the logics of their own models of history, methodological operations and representational practices through data art. As particularly illustrative examples in this regard, I point to the appropriation works of artists Les Leveque, Jim Campbell and Cory Arcangel who each in their own way challenge the underlying, algorithmic procedures of for instance multiple-frame visualisations or SUM images. In several aspects I take these examples to illustrate how contemporary data art is increasingly inquiring into the shifting nature of film history's mediations, by questioning the preconceptions of software, the relations they establish in data and the situations that produce them.

With these suggestions I hope to inspire new critical attitudes towards digital film historiography's *dispositifs* to counter and challenge the potential reductionisms of quantitative procedures, methods and scientific visual analytics and nurture an understanding of them as ambiguous, polysemic figurations embedded in a continuous flux of interpretation.

### 5.1 Cinephilia's Anecdotal Data Analysis

As in most other humanistic disciplines, the introduction of scientific methods has been hotly debated with regard to its consequences for the humanities’ epistemology. In film studies this has been visible in how scholars coming from culturalist and Apparatus-theoretical perspectives have critiqued quantitative methods as being culturally contingent and sought to appropriate them to their own ends. For example, without intending to dismiss Cinemetrics' stylometry and its results, Tom
Gunning has questioned the general value of numbers in film historical research in his lecture "Your Number Is Up!". As a witty way to highlight his reservations about Cinemetrics' ability to produce evidence for style history, he refers to a key sequence from the late Otto Preminger’s film *Skidoo* (USA, 1968). In the sequence, the incarcerated mafia boss Tough Tony Banks, played by Jackie Gleason, decides to try LSD, given to him by a hippie inmate. Lying on his cell bed when the trip kicks in, we follow Tony's vision in a dream sequence where dissonant piano, shotgun sounds and delay effects provide the backdrop for a vision in which a wide open pair of eyes move closer, a shotgun points at Tony and an explosion of colours and numbers being added appear and disintegrate into abstract patterns. When asked by his curious inmates what he sees, Tony promptly responds: "I see mathematics!", to which an inmate goofily replies "Mathematics... He’s got a loose screw!" Taking this clip as a departure point, Gunning humorously reminds us that numbers are abstract self-referential entities which do not create a more direct approximation to reality. Deep down below, numbers created with stylometry's diligent truth-finding operations, he argues, are conditioned by the "possibilities of human consciousness" and can potentially become "an image of the infinite". Along these lines, he encourages scholars to carefully reflect the disciplinary encounter between the sciences and film historiography, when applying its scientific terminology and aspirations to objectivity. For instance, it might not be immediately evident to a film scholar what “Kernel Density” and “smoothing” is, but this does not mean it is unproductive to know it. As I discussed in Chapter Three, cinemetric methods are clearly relevant for elucidating the inner workings of filmic structure and narration and the point of Gunning's critical remarks is not to dismiss the validity of these methods and their scope. Rather, with this observation, he invites a reflection on quantitative methodologies’ positionalities and the inherent contingencies and reductionisms of data visualisation, to ask how we might productively use them while reminding ourselves that they are essentially a product of our imagination.

I find this observation important as it touches upon a valuable fundamental, methodological quality of humanistic inquiry which I believe we might risk losing if we do not develop strategies for reflecting the contingencies of our interpretative endeavours in our methods. Thinking along these lines I find that cinephile theory is particularly relevant to draw inspiration from to develop

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904 Ibid., 00:10:49 – 00:10:58.

905 Ibid., 00:39:29 – 00:39:34.
To further develop digital research formats in media history, I therefore contend that scholars should reconnect with the idiosyncratic, anecdotal stances of cinephilia and Apparatus theory, which I believe offer a fertile ground for such endeavours. As I shall argue below, I believe that cinephile theory's underpinnings in surrealist theory and poetics, and its current reinvigoration in the form of the scholarly audiovisual essay, offers an adequate historiographic frame for rethinking data visualisation and interface design to foreground subjective and personal interpretations.

The Anecdotal Videosyncracy of Scholarly Audiovisual Essays

In recent years the audiovisual essay, also referred to as videographic film studies, has emerged as an online scholarly research format associated with a new cinephile, idiosyncratic approach to both film criticism and historiography. On platforms such as Transit Cine, Fandor, [in]Transition and the Vimeo forum Audiovisualcy, the work of among others Christian Keathley, Catherine Grant, Cristina López, Adrian Martin and Kevin B. Lee, has been instrumental in theorising the
audiovisual essay as a scholarly cinephile practice and publication format. Going beyond closed, curated video formats, these scholars and critics rip, share, re-edit and remix films to impose idiosyncratic interpretations and experiences of photogénie upon them. These uses of new techniques to express cinephilia can be qualified as, lending a term suggested by film scholars Marijke de Valck and Malte Hagener, “videosyncratic”. Their video appropriations produce close readings which anchor, to recap Cubitt’s words, the films’ interpretation in specific experiences and anecdotes which fall outside of general patterns. In doing so, they challenge the parameters and assumptions which sustain quantitative methods, for instance the overt focus on editing.

To provide a bit of background on the audiovisual essay format, as it is currently practiced, it is worth pointing out that it intersects amateur and scholarly contexts of production. It is the product of a new cinephilia's idiosyncratic forms of analytical intervention, which flourish on online platforms and are travelling into academia where they are being negotiated as scholarly forms of publication. Among other things this is visible in how audiovisual essayists draw on the repertory of the specialised DVD and Blu-ray editions. Created in San Francisco in 2010, Fandor is for instance simultaneously a highly specialised platform for subscription-based VoD and open access film criticism, which attracts amateur and academic cinephiles alike. Collaborating with the Criterion Collection, it offers a repertory closely aligned with the reference frame and hardware aesthetics of the specialised video editions consisting of silent classics, auteur, exploitation and avant-garde cinema. The site's publication section Keyframe offers background articles, reviews and video essays of a more scholarly nature to theorise and contextualise the films. Established slightly later by Catherine Grant in 2011, and drawing on a similar reference frame, the Vimeo forum Audiovisualcy brings together essays with an "analytical, critical, reflexive or scholarly" purpose and includes both amateur and scholarly user contributions emanating from a wide array of institutional and non-institutional contexts. Finally, the online video journal [in]Transition, launched in 2014 in collaboration between the scholarly online community MediaCommons and SCMS’ Cinema Journal is an academic, institutionalised format, which introduces a peer-review

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909 Marijke de Valck and Malte Hagener, op.cit., 14.


912 Currently, the forum counts approximately 1300 members and 1150 videos. See: https://vimeo.com/groups/audiovisualcy, Last accessed January 24, 2017.
process for audiovisual essays.913

The audiovisual essay, as practiced on these platforms, draws heavily on cinephile theory to conceive its historiographical approach and anecdotal analytical intervention, largely within the same, unifying reference frame. Audiovisual essayists tend to locate their practices’ origin points in early compilation film, structural and found footage filmmaking, the essay films of especially Chris Marker and Harun Farocki, while drawing extensively on classic cinephile, surrealist film theory and appropriation work.914 In particular, Joseph Cornell’s seminal appropriation film *Rose Hobart* (1936) has been widely highlighted as an origin point.915 In *Rose Hobart*, Cornell assembled shots of Hollywood actress Rose Hobart’s appearance in the film *East of Borneo* (George Melford, USA, 1931), slowed down the projection speed, set it to music from records of his choice and projected the material through purple and blue filters so as to mimic silent cinema’s colorisation processes and performative, material dimensions.916 In this way, he expressed, in what can arguably be characterised as an early videographic star study, his longing for Hobart through an elegiac gesture of appropriation, while interrogating the material transition from late silent cinema’s colours and projection speeds to sound cinema’s technical standards.917 Because its appropriation of Melford's film displaces its narrative coherence through slow projection speed and disjunctive cross-cutting to express passion, longing and surrealist dream logic, *Rose Hobart* has been highlighted as an early, key surrealist found footage film which offers a blueprint for the audiovisual essayists' interpretative gestures.918 Taking Cornell’s work as a point of departure, film scholar Adrian Martin has argued that the audiovisual essay branches out directly from surrealist film criticism and historiography.919 He develops this argument by suggesting that in particular critic Ado Kyrrou’s

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914 In Chapter One, I discussed in particular academia’s intertwinement with structural filmmaking practices, as seen in Noël Burch’s *Correction Please: or, How We Got Into the Pictures*, and pointed to the practice of compilation films in 1920s cinephile circles as emphasized by film scholar Christophe Gauthier with the example of Julien Duvivier and Henry Lepage’s 1924-film *Machine à refaire la vie*.


916 The versions of the film circulating in later years use music solely from Nestor Amaral and his Continental's *Holiday in Brazil* (1957).


919 Adrian Martin, op.cit.
classic monograph *Le surréalisme au cinéma* (Arcanes, 1953) incited cinephiles to get a hold of the films which produce intense experiences during a viewing, and produce appropriations of them to express and present their emotions and subjective visions as factual, experienced realities. Martin substantiates this by offering a translation of a passage in Kyrou’s book which states this ambition:

> Perhaps I would have to work on [these films]—make some editing modifications; cut, raise or lower the intensity of the sound—in short, interpret them so that, ultimately, my subjective vision could become objective…. All it needs are some small changes for everyone to perceive what I sense and detect.

Thus, with Kyrou, Martin sees the audiovisual essay as reaching back to the cinephile avant-garde’s theory and practice to articulate the analytical potential of filmic appropriation, namely to express a subjective, idiosyncratic vision and interpretation rooted in the experience of *photogénie*. As I shall discuss in more detail below, beyond *Rose Hobart* and Kyrou, audiovisual essayists broadly align the strands of structural and found footage filmmaking which I discussed in Chapter One with the analytical appropriation tactics of a surrealist, cinephile stance. What I also find important to emphasise in a present-day perspective is that the characterisation of the audiovisual essay, which Martin's discussion reflects, also strikes a chord with contemporary theorisations of digital, cinephile spectatorship and appropriation within the frame of Apparatus theory. In this frame cinephile spectators are seen as acquiring a strong position as co-creators of meaning as a consequence of video viewing and editing. While Païni highlighted how the "casettophiles’" viewing modes facilitated close, scholarly reading through manipulation of direction and playback speed, film theorist Laura Mulvey has theorised such practices further as means which allow for challenging and subverting films' discursive framings through cinephile gestures. With regard to Hollywood cinema, Mulvey has for instance argued that by freezing the film image, the spectator makes "...a gesture that dismisses narrative and context and brings the cinephile’s love of Hollywood movies into touch with the counter-cinema of the avant-garde". Film viewing on digital formats, according to Mulvey, opens the possibility of becoming a possessive and pensive spectator who produces counter-readings and imposes subjective visions, to challenge films'
ideological codings, for instance of gender roles, and elicit hidden meanings. It nurtures a cinephile, "fetishistic" form of viewing, in which a certain gesture, trait or moment – or an actor as in Cornell’s case – can be singled out as a marker of photogénie to produce a counter-interpretation. Through such acts of appropriation cinephiles can create fissures within larger systems to allow for personal, alternative meanings to emerge and take them in new directions.

In addition to nurturing an idiosyncratic form of anecdotal interpretation and appreciation, filmic appropriation is also considered to underpin a reflexive type of historical inquiry. With regard to Ken Jacobs' Tom, Tom the Piper's Son, film theorist Nicole Brenez has argued that this work embodies a general tendency in filmic appropriation – from L'Herbier, Razutis, Burch and Godard to Deutsch - to produce a subjective form of "self-history". While not defining exactly what "self-history” implies, Brenez clearly suggests that filmic appropriation's subjective perspective confronts and problematises established historiography's foci, analytical instruments and the symbolic insights they yield. In doing so, filmic appropriation redirects the attention of historical interpretation and inquiry to new problems and research agendas. Along these lines, Brenez has characterised Tom, Tom. 's appropriation as a subversive, visual study which challenged conventional, historical understandings of filmic form and made scholars identify new problems, by interrogating and appropriating the technological conditions of their analytical enterprise. As she writes:

The visual study, too, is thus a matter of giving back to cinema the bottomless powers of the unknown, the unrecognized, the incomprehensible. This is what Jacobs, with his total kinetic materialism, elaborates: he presumes to identify and demonstrate what is unformed and unreadable, to rework what is problematic, what is possible, and what is taken for granted in the name of symbolic representation.

In its opposition to a teleological account of film form's development centered around Griffith, Jacobs' appropriation, which departed from his profound curiosity to understand the film's structure, prompted scholars to attend to early cinema's intermedial, performative dimensions and identify new research problems in film historiography. As I discussed in Chapter One, several scholars have

925 Ibid., 166.
926 Ibid.
928 Ibid.
regarded Jacobs' work as a form of archival research which profoundly impacted the analysis of early cinema's formal aspects, not to say, as Burch suggests, that it heralded the very emergence of early cinema studies.930

To elaborate on this characterisation, I would also argue that Jacobs' highly idiosyncratic exploration of early cinema, can productively be considered an anecdotal counter-point to the potential reductionisms of the assumptions and techniques underpinning statistical style analysis' procedures. As Vlada Petric, Jacobs was interested in the techniques of stop-motion projectors and their potential didactic applications to explore early cinema’s formal developments, yet deployed this machinery to remarkably different ends. In Petric's practice, the stop-motion projector, in combination with the flatbed editing table, was used for developing a methodologically rigorous, quantitative film history which provided a firm empirical basis for existing canons. In Jacobs' practice it was deployed within an exploratory, artistic practice to support an exegetic and ecstatic trip into the grain of a materially diffuse and continuously morphing archival object to subvert existing canons. In this sense, its poetic deployments of analytical instruments for idiosyncratic pattern-seeking contributed to a reflexive historical stance which highlighted the madness and abstract, enigmatic dimensions of our objects of analysis by challenging a prevalent focus on narration and continuity editing in film historiography. In many respects, I consider this example to incarnate one of filmic appropriation's great virtues when it comes to challenging academic film historiography.

While the audiovisual essay, as practiced today, is a format mostly used for cinephile film criticism, rather than film historiography, several key audiovisual essayists can be said to think along the lines of the "self-history" sketched above, to produce alternative, anecdotal historiographies and uses of analytical techniques. As film scholar Christian Keathley has argued, cinephilia's emphasis on the moment and the anecdotal is rooted in historiographic assumptions from classic, critical theory. In particular, Keathley aligns "cinephilia history" with Walter Benjamin's and Siegfried Kracauer’s historical materialism, in which moments, fragments and memories are collected, to form the basis for personal image-archives and memories which are recounted through anecdotes and intuitions that challenge rigorised, scientific historical inquiry.931

As Keathley writes: "The anecdote disrupts traditional discourses of history and criticism in the same manner as the cinephiliac moment or the filmic detail as described by Benjamin and

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Kracauer”. In line with especially Benjamin's conception of image-based history, this serves to challenge the linear causal chains and suggested direct relationship to the past implied in traditional historicism and to foreground multiple temporalities through emotive responses to the material. As Catherine Grant has further argued, the audiovisual essay allows for synoptically linking seemingly disparate film fragments to produce new associations and meanings, making them appear as "small, fleeting images" in a continuous flux towards other and different constellations of meaning. As she emphasises, this reflects a poetic gesture which "unsettle[s] a 'professional coziness' of traditional historicism". It is driven by a "mad poetry", which challenges the rules of professional, disciplinary film history and may be described as a form of theorising which: "...feels less consciously controlled than [conventional understandings of] academic rigour that we've had in the past." In this regard, the audiovisual essay invites disorderly and serendipitous analysis rather than rigorised, procedural analysis and does not produce clear-cut periodisations or notions of stylistic schools in the treatment of its sources.

Keathley’s audiovisual essays, available through Audiovisualcy among other platforms, take such an approach, using digital editing and zoom. An illustrative example is his key piece Pass the Salt (Bit of Business #23) (2006) which contemplates and analyses a scene in Otto Preminger’s Anatomy of a Murder (1959) by recounting his experience of it as a cinephiliac moment. The scene in question revolves around a lunch conversation between the lawyers Parnell Emmett McCarthy (Arthur O’Connell) and Paul Biegler (James Stewart) and takes place in the railroad yard in the town of Iron City. McCarthy and Biegler discuss the moral concerns of the latter accepting the defence of the dubious Lieutenant Manion, who is charged with murdering bar-owner Barney Quill but who claims to his defense that Quill raped his wife. In this scene, Keathley is mainly interested in the props, setting and sound design, not its dialogue. In particular, he attends to what he describes as the "bits of business" - a term he lends from film scholar James Naremore - supporting the dialogue; the small gestures and activities which dynamise a scene throughout a

932 Ibid., 139.
933 Ibid., 127.
935 Ibid.
936 Ibid.
937 Christian Keathley, op.cit., 127.
938 See: https://vimeo.com/23266798, last accessed January 24, 2017. As Keathley comments "There is this scene in Otto Preminger’s Anatomy of a Murder. I can’t stop thinking about it. It seems pretty straightforward. But I can’t help but feeling that I am seeing in it, more than is being shown to me. Let me tell you about it.” Ibid., 00:35 – 00:55.
A particularly interesting “bit of business” for Keathley is the role which a salt shaker being passed on from O’Connell to Biegler, acquires during the conversation. By attending to the passing on of the salt shaker, during the conversation as well as to its sound's relation to the metallic noises produced in the railroad yard, Keathley opens for a subtle, unexpected analysis of the characters' negotiation and suggests a surprising associative analysis of the link between metal and salt as a thematic backdrop. Without going into details here, this link allows him to frame his analysis of the film within a broader legal history in a highly intriguing way. Though Keathley's analysis is delivered with detective-style diction, as if revealing the film’s deeper historical meaning as hard forensic evidence, his analysis embodies a highly videosyncratic, almost tongue-in-cheek, serendipitous approach to the scene's details. Its highly productive anecdotal close-reading approach to the film, deploys digital editing techniques to present personal perspectives which are not quantifiable and which do not fit into a rigorous scientific scheme. It does not suggest, to recall the words of Drucker, a “repeatable result”, because it is so deeply embedded in his personal experience. Instead, it can be said to reach back to a surrealist strand of cinemphile film theory (Kryou) and filmic appropriation (Cornell's Rose Hobart) to go beyond and complement formalised methodological procedures to “unsettle a ‘professional coziness’” through “mad poetry” (Grant and Martin). Thus, Keathley does not strive for a rigorous stylometric analysis using digital editing. Instead he elicits alternative hidden meanings and offers a different contextualisation of the film by using digital techniques to remarkably different ends.

To further qualify this cinemphile approach, I would also tentatively suggest that we could fruitfully move beyond and complement the familiar reference frame of film studies with perspectives from classic philosophy of science, to elucidate how anecdotal, idiosyncratic observations and gestures counter reductionism. For instance, in the playful terminology of scientist and philosopher Gaston Bachelard, from which Science and Technology Studies takes many of its concepts, we could think of this approach as “surrationalist” (surrationalisme). Influenced by psychoanalysis and surrealism in the 1930s, Bachelard coined this term to articulate a dialectic approach which embraced logical and formal deduction’s rationalities and methods, while


\[940\] Ibid., 113. Keathley has later supported this analysis with the Cahiers-critics' reception of Preminger, in particular that of Eric Rohmer, who argued that the small gestures in Preminger’s films should be considered constitutive of his art and seen as access points for analyzing its context and motivations. Yet Pass the Salt's analysis is distinctly Keathley's own.

\[941\] Gaston Bachelard, L’engagement rationaliste (Paris: Les Presses universitaires de France, 1972[1936]) 12. See also Sergio Sismondo, An Introduction to Science and Technology Studies. (Chichester: Blackwell Publishing, 2004) 61. In making this suggestion I am highly sympathetic to Ferguson’s digital surrealism. As a possible way to develop this idea further I would suggest that we may also consider speaking of “digital surrealism” to reflect a historiographical position more overtly located in-between scientific and artistic data visualisation.
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constantly questioning them to open new paths for scientific discovery. For Bachelard, this implied to "take these forms - after all purified and economically arranged very well by logicians - to fill them up psychologically and put them back into motion and life again".\(^\text{942}\) To this end, surrealist poetics, he argued, could play a crucial role in creating an "experimental reason" as a scientific pendant to the surrealists' “experimental dream”, with which to question scientific images' representational value, formalised methods and rigour to highlight unexplainable imaginary alternatives underneath them.\(^\text{943}\) Along these lines I take the audiovisual essayists' poetic and cinephile gestures to offer a “surrationalist” counter-point to the scientific representational practices of digital film historiography's established dispositifs. In doing so, I believe they serve the important function of challenging quantitative analysis' pattern-seeking and potential reductionism, and remind us to keep our options and minds open.

Having highlighted the valuable historiographic perspective of the audio-visual essay tradition I consider it crucial to nurture combinations with existing digital dispositifs, to allow for idiosyncratic approaches to acquire a more prominent place in data-driven scholarship. I believe this is a major challenge which media historians must try to confront by mixing methods to combine data visualisation and cinephile approaches. In the following section I conclude my reflection on how this could be done by discussing two examples which I believe may suggest fruitful future paths.

**Mixing Quantitative and Anecdotal Analysis from a Cinephile Perspective**

The first example which I find offers a fruitful perspective is the annotation software Lignes de Temps developed by the Centre Pompidou’s research and development centre Institut de Recherche et d’Innovation (IRI) in 2009. This software can be said to have nurtured a videosyncratic approach in combination with quantitative analysis. The software was first showcased at a joint exhibition of the works of respectively Spanish and Iranian film directors Víctor Erice / Abbas Kiarostami: Correspondances, in which visitors could use it to annotate and segment the exhibited works so as to impose their own readings.\(^\text{944}\) Lignes de Temps has since found different deployments in

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\(^{942}\) Gaston Bachelard, op.cit., 12. Original quote: "C'est de reprendre ces formes, tout de même bien épurées et économiquement agencées par les logiciens, et de les remplir psychologiquement, de les remettre en mouvement et en vie"

\(^{943}\) Ibid., 11.

\(^{944}\) Livia Giunti, "L'analyse du film à l'ère numérique. Annotation, geste analytique et lecture active", Cinéma & Cie., vol. XIV, no. 22/23 (2014) 137. It should be pointed out that Lignes de Temps' software is no longer being updated and that its last version was launched in 2011. Instead it is currently being transferred and developed into an online annotation platform. See: https://ldt.iri.centrepompidou.fr/ldtplatform/ldt/. Accessed January 28, 2017.
scholarly work for film and discourse analysis. What I find interesting about this software is that it shares the core focus of applications such as Cinemetrics and ShotLogger on segmentation and shot length measurement facilitating both automatic shot boundary detection and manual segmentation. Yet, it also differs substantially from them by being conceived within a lineage of 1970s Apparatus theory – in particular that of Comolli – and by pointing back to Raymond Bellour’s structural approach to film analysis. One may describe Lignes de Temps' ambition along the lines of Mulvey's stance, as driven by a wish to empower the spectator by letting him or her take possession of the object of analysis and think from it on his or her own terms. Jean-Louis Comolli, who was involved as one of the key theorists in the tool's development, emphasises this when explaining that Lignes de Temps: “…is a software which allows to place the film before oneself to fix it in a certain way which asks you to get out of this role as spectator (...) to occupy a new place which one could provisionally define as a critical place”. 945 By also involving Bellour as one of the first users whose annotation was displayed during the Pompidou exhibition, it seeks to embody the interaction and note-taking practice which he called for in the 1970s to stimulate medium-specific film analysis. Moreover, it reflects the ambition of IRI, headed by philosopher Bernard Stiegler, to develop technologies that let general users occupy an active role and enable them to go against the discursive framings embedded in consumer technology to develop critical, non-automatic perspectives.946

Technically, the software achieves this by offering a semi-automatic environment for annotating films. When importing a video file into Lignes de Temps, the software creates a segmentation using automatic shot boundary detection and generates statistics on ASL. Though not entirely accurate - but still fairly precise - these segmentations allow the user to navigate and run through a film's shots and create descriptions for each of them.947 In addition, the user can manually create personal segmentations, as separate timelines representing different, user-defined categories, and create rough cuts from them. Thus, the timelines can for instance contain segmentations of shots using

945 For interview with Jean-Louis Comolli on Lignes de temps, see: http://web.iri.centrepompidou.fr/demo_entretiens_lignesdetemps.html. Last accessed January 24, 2017. Original quote: "...c’est un logiciel qui permet de poser le film devant soi, de le fixer d’une certaine manière et qui demande donc de sortir de cette place de spectateur (...) pour occuper une nouvelle place qu’on pourrait définir de manière provisoire comme une place critique."


947 The problem with Lignes de Temps' shot segmentation function as I have experienced it is for instance that it mistakes dramatic shifts in lighting or flashes as cuts or is not able to detect transitions such as wipes.
certain angles or lenses, depicting specific objects or scenes or, on the other hand, dialogues revolving around abstract themes or concepts. In this way, the user categorises and describes clips through annotations in Lignes de Temps or by uploading or recording audio descriptions or material relevant for the segmentations, as an analytical template from which to create for instance rough cuts for audiovisual essays or hermeneutical units of multimedia material as in qualitative analysis software. Because of its combination of automatic segmentation and manual annotation, film scholar and documentary filmmaker Livia Giunti, has argued that Lignes de Temps goes beyond being merely a “statistical machine” to capture a personal experience of the film.948 The iterative process and analytical gesture of creating timelines, she contends, explicitates and advances the process through which we “grasp the film” and make sense of it.949 In this aspect, Lignes de Temps’ procedures, along the lines of the audiovisual essays discussed above, engages in a play between formalised, quantitative methodologies and the passionate insights of subjective experience and appropriation. It plays the procedures of the former out against the serendipitous and unexpected observations which might emerge in the latter by allowing users to create different segmentations and include related documents in annotations. In doing so it allows for combining the results of automated approaches with personal, idiosyncratic observations in a dialectic interplay which challenges the structures discerned by the former.

A second, and final, example which I believe illustrates a productive encounter between scientist data visualisation and a videosyncratic, cinephiliac approach is the analytical practice of film and media scholar Kevin L. Ferguson. Ferguson's work enthusiastically embraces both ImageJ and Moviebarcode but utilises a greater variety of visualisation types than media scholars have hitherto explored, such as slitscan visualisations and tomographic scans, using in particular ImageJ.950 Thus, in addition to creating SUM visualisations, Ferguson uses especially ImageJ's stacking function to enable the visualisation of film sequences as image stacks from a sideways perspective (see fig. 48). Thinking through surrealist and cinephile theory to develop his research strategy, Ferguson propagates the view that such interventions are inherently indiscriminate of narrative or stylistic time-space relations and therefore can be regarded as intervening into films in a surrealist fashion.951 Their operations eliminate the logics of these relations and consequently defamiliarise our analytical

948 Livia Giunti, op.cit., 129.
949 Ibid., 127 & 129. In this aspect, one might also suggest that Lignes de Temps shares similarities with Grounded Theory in that it develops theory bottom-up in the way it grasps film experience.
951 Kevin L. Ferguson, op.cit., 2016, 276.
objects. Furthermore, by taking this attitude, Ferguson can be said to interrogate, somewhat similar to Jacobs, the technological conditions of our analysis, rather than regarding the software as a generator of hard, scientific facts. Consequently, ImageJ visualisations do not interest him uniquely for the sake of statistical comparison, but as heuristic techniques to think speculatively with and analyse individual sequences to reconsider key concepts in film theory.

![Fig. 48](image_url)

An example of how Kevin L. Ferguson looks at films sideways using ImageJ. In this case Hitchcock's *Vertigo*. Screen grab from Ferguson's *Volumetric Cinema* (USA, 2015).

In his audiovisual essay *Volumetric Cinema* (2015) published by *[in]Transition*, Ferguson presents a broad variety of his results explaining how in particular the sideways visualisations allow him to study changes in volume and relations between characters and objects in film sequences. Attending primarily to classic and contemporary Hollywood cinema – John Ford, Alfred Hitchcock, Ridley Scott – he argues that this allows him to go beyond classic film theory’s binary conceptions of cinema as either a frame or a window to comprehend complex dynamics of volume and proportions in film style in new ways. As he further argues, the ability to study volume from a sideways perspective reflects one of the particular affordances of digitisation because it renders space in a different way. Thus, Ferguson's essay is interesting insofar as it combines the idiosyncratic audiovisual essay format with visual analytics not primarily for producing comparative statistics but to study specific, iconic moments from new perspectives which shed light on character relations and mise-en-scène, while grappling with ontological aspects of film (theory) and attending to film's technological transition.

The dynamics in these two concluding examples illustrate what I would like to see developed to
a greater degree in future data-driven approaches. By suggesting analyses which may not be easily quantified in combination with quantitative techniques, they nurture a conception of the latter as heuristic devices for producing theoretical and anecdotal reflection rather than attributing them an evidentiary, scientific function. Along these lines, I would encourage media historians to increasingly combine quantitative techniques and current visualisation formats with annotation, to allow the former to be contested through close readings and personal recollections. I believe this can be done by mixing methods in the different types of interfaces currently used in different research traditions, somewhat like Lignes de temps’ interface, but comprising a wider range of representational practices. Imagine for instance the possibility of including a scholarly video essay in a map interface to add a personal, cinephiliac recollection of a screening and theoretical analysis to a film whose distribution history can be studied within a larger socio-economic pattern in that interface. Or, by letting scholarly users manually discern new relations within datasets on colour, editing and sound, personal viewing experiences can be highlighted to reflect on patterns in relation to close, textual analysis. In these aspects, the cinephile audiovisual essay, in the combinations with quantitative techniques I have discussed above, could be regarded as opening productive new avenues for further developments of data-driven film history.

5.2 Data Visualisation as Artistic Research on Film Historiography

My second suggestion concerns nurturing a new relationship between media art and film historiography to recast the productive interpretive dynamics produced between academics, archivists and artists. To achieve this, as I argued in the introduction, I believe film historians should look beyond structural filmmaking and found footage to new developments in data art in particular. Data art has flourished for years as a consequence of increased availability of open source visual analytics software and data. In the US, renowned art institutions such as the Whitney Museum of American Art or the San Francisco Museum of Modern Art have displayed great varieties of data art throughout the 2000s, just as numerous European festivals and galleries such as Linz’ Ars Electronica, Berlin's Transmediale or V2_ in Rotterdam have nurtured information and data art for decades.\footnote{Fernanda B. Viégas and Martin Wattenberg, "Artistic Data Visualization: Beyond Visual Analytics" in \textit{Lecture Notes in Computer Science,- Online Communities and Social Computing} (2007) 183.} Computer scientists Fernanda B. Viégas and Martin Wattenberg, have characterised data art's core qualities as being able to draw critical attention to data bias and the contingencies of statistical reasoning.\footnote{Ibid., 182.} They argue that contrary to the assumed neutrality of visual analytics in...
scientific research, data art can allow itself to be opinionated and to overtly break the rules of statistical representation, by distorting data through poetic gestures to prove a point. They point to a piece such as Jason Salavon's *Every Playboy Centerfold, the Decades* (2002) which, using a code written by Salavon in C to produce SUM visualisations, processes four decades of Playboy centerfolds to illustrate how the magazine’s models have gradually become more light-skinned. Furthermore, they highlight a work such as *The Secret Lives of Numbers* (2002) by Golan Levin et al., which produces a visualisation made from a wide range of datasets and search engine queries, to show how culturally contingent our preferences for specific integers are. Thus, somewhat along the lines of Gunning's critique, data art critically exposes how statistical procedures' trust in numbers reflects culturally contingent conventions and imaginaries.

While data art works that deal specifically with film data are still rather limited in number, they do seem to gain a stronger foothold and increased attention from scholars, while developing distinct artistic practices. In many respects, data art works which process digitised film emanate from experimental film practice and share several of its key concerns. They can be said to distinguish themselves from data art more generally by showing greater concern with film's material transition and the tension between the respectively continuous and discrete manifestations of analogue and digital cinema. Discussing filmmaker Siegfried A. Fruhauf's work, Nicole Brenez has succinctly encapsulated contemporary experimental filmmaking as seeking to counter software's streamlining and automatisation by producing a "...seemingly uncontrollable visual unlinking within a world of computerized programming." In other words, data art created from film data tends to destabilise and contest computerised images by producing and exploring errors and glitches, to deconstruct the technical conditions which delimit contemporary methodological procedures' and conceptions of films and related material as objects of analysis.

An early work which I consider interesting in this regard is Les LeVeque's *4 Vertigo* (2000) which, as the title suggests, reworks Hitchcock's *Vertigo*. From the film, LeVeque creates a kaleidoscopic, vertiginous montage in which recognisable scenes rotate - producing the illusion of a screen split in four and a linear, fast-forward experience of it. In a blurb for the work, the Australian Centre for the Moving Image has specified, that this appropriation was created by using an algorithm which:

954 Ibid.
From Figures to Figurations

took the two hours of Alfred Hitchcock's *Vertigo*, captured one frame of image and sound every two seconds, and then threaded them all into a gorgeous splatter movie made from the eviscerated parts of the classic.958

By applying this algorithm, I would argue that LeVeque's work can be said to critically deconstruct *Vertigo* and cinemetric visual analytics on a technical and a thematic level. On a technical level, LeVeque's intervention recalls ImageJ's procedure of sampling film frames at a fixed interval to create a SUM visualisation. Yet, rather than showing a visualisation as an end result, it can be considered to show and appropriate its underlying procedure of sampling. In doing so, it scrutinises the technical conditions and process of rendering a visualisation and arguably opens the black box of cinemetric methodology to expose its technical interventions. As I see LeVeque’s work in relation to contemporary scholarly methods, this yields a critical understanding of how scholars intervene into a digitised film and conceive it as an analytical object to rethink what is possible. In this sense, it brings attention to the technical conditions of contemporary digital methods and their interpretations by eliciting the contingencies of their procedures and assumptions.

To further substantiate this I would argue that it also produces a counter-reading of the work which offers a different framing of the film's point of view. In particular, I find it interesting how *Vertigo* uses an oft-cited passage by principle female character Madeleine's anxious description of her nightmare vision of her life in which she describes walking down a dark corridor, to realise that "the fragments of that mirror still hang there".959 Appearing at the end of LeVeque's work, it frames its fragmentary, visual exploration so as to evoke and embed it in the subjective nightmare vision of Madeleine. In doing so, it arguably challenges the predominant character alignment with Scottie's viewpoint in the original work, to suggest an alternative, possibly feminist, framing of the film, which aligns its vision with Madeleine’s subjective viewpoint. By producing such a counter-reading, arguably along the lines of cinephilia's idiosyncratic approach, *Vertigo* teases out a tension between the rigour of the work's current digital, technical configuration and the artist’s emotive response to it. Or, as media scholars Sharon Li Tay and Patricia R. Zimmermann have characterised LeVeque's approach, it "digitize[s] desire" by exploring "contradictory movement between algorithms as controlled experimental systems and desire as uncontrolled, inchoate,

959 *Vertigo* (dir. Les LeVeque, USA, 2000) 00:08:38-00:08:45.
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ineffable and immaterial.”

Equally exploring the possibilities offered by cinemetric methods, artist Jim Campbell has produced SUM images of Hitchcock's *Psycho* (1960) in his *Illuminated Average* series (2000-2001). Different from LeVeque’s work, Campbell’s series revolves around the visualisations resulting from quantitative methods rather than their underlying procedures. As the first installment in the series, his visualisation of *Psycho – Illuminated Average #1* (2000) – is a SUM visualisation of the film, which shows the characteristic, multi-angled even lighting which this visualisation type produces in which some particularly luminous objects shine through as if offering analytical anchor points, in this case a lamp. Reflecting on the visualisation's fuzzy apearance and the lamp’s luminosity, André Habib has suggested with regard to Campbell’s works, that his data visualisations can ressuscitate fleeting, cinephile memories and anecdotes of film viewing rather than an elaborate content analysis. The lamp’s appearance is striking, as Habib notes, because it is the most luminous object in the key parlour scene, in which Norman Bates converses Marion Crane while revealing his sinister taxidermy hobby and excessive mother attachment. Yet, though the lamp’s appearance seems to confirm the scene's centrality in the film, this does not lead Habib to contemplate the visualisation as an evidentiary image which reveals facts about the film's lighting style. Rather, to Habib, the visualisation serendipitously captures the “voluntary and the accidental, the mechanic and the spiritual” because it evokes his cinephile memories of viewing the film in different situations rather than forming the basis for hypothesis formation. Thus, as he puts it, it transcends a “purely statistical intervention” and can be seen in line with data art as appropriating the evidentiary function of visual analytics, by inviting a contemplation which triggers the remembrance of cinephile experiences rather than scientific reasoning.

Beyond these two examples produced around the turn of the millenium, one can discern a more recent trend of contemporary data art, working, again, especially with SUM visualisations. Recently, British artist Jason Shulman completed the series *Photographs of Films*, presenting a

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962 Ibid., 22 and 17. As Habib writes: “Au plus simple, *Illuminated Average #1* est une intervention purement statistique...” (p. 22) and “...où se sont mêlés le volontaire et l'accidentel, le mécanique et le spirituel” (p. 17). For Jim Campbell's *Illuminated Average* series see: http://jimcampbell.tv/portfolio/still_image_works/illuminated_averages/index.html, last accessed January 24, 2017.

963 Beyond Shulman, one may find similar, both artistic and amateur-driven examples of aesthetic contemplation and commodification of data visualisations of films. For instance, the software MovieBarcode, which I briefly discussed in Chapter Three has recently been used by Winnipeg-based photographer Chris Calvert to create and sell poster art through the website for independent art Redbubble. See: http://www.redbubble.com/people/armand9x, last accessed January 24, 2017.
number of SUM visualisations of film classics, such as *Fantasia* (Norman Ferguson and James Algar, USA, 1940) *Le voyage dans la lune* (Georges Méliès, France, 1902) or *2001: A Space Odyssey* (Stanley Kubrick, USA, 1968). For Shulman, these visualisations give rise to observations about filmic structure, for instance, as he remarks, when comparing visualisations of Hitchcock and Kubrick films, that it seems "...Hitchcock is all about character, whereas Kubrick was preoccupied with structure". Yet, to Shulman they remain meaningful mainly as art works to contemplate in a gallery setting, not as evidentiary images to reason from, also if only heuristically and in an exploratory fashion, as in Ferguson’s approach. This dimension is highlighted in the presentation of Shulman’s works which is provided by the itinerant museum Kinetica. As it states: "Shulman combines scientific experimentation with more formal artistic trajectories, using optics, and other aspects of basic science to expose the falsehoods that underpin our experience of reality". Though one may add, that Shulman's artistic approach is curiously presented here as more formalised and potentially more invested in a falsification procedure than its scientific counterpart, the blurb highlights how the works subvert a realist experience. In this respect, his work’s quantitative techniques can be seen as nourishing reflections on canonised auteurs and genres, but also as taking a reflexive approach by interrogating film history’s mediations and science’s contingencies.

Finally, along similar lines, one may also consider Cory Arcangel's playful single-channel video installation *Colors* (2005) created from Dennis Hopper's 1988-film of the same name. Using a QuickTime application created by Arcangel with the programming language C++, the work shows a row of colours of only one pixel's height stretched to fill the entire screen, while the soundtrack is left intact, resulting in an abstract, moving colour piece. Arguably, one may consider this, if not a comment, then a subversion of the algorithmic selection of pixels to create a colour average with visual analytics. Though less explicitly historicising or cinephiliac than the works discussed above, its literal pun on the title of Hopper's film may also be seen as a typical tongue-in-cheek desconstructionist joke on meaning-making processes and the technological conditions of filmic signification.

To these works can be added several other artistic appropriation pieces, which elicit hidden meanings in the films they appropriate through montage and colour visualisations to articulate critiques of cultural conventions and consumerism, while interrogating contemporary technological

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conditions of data analysis. For instance Jason Salavon's video work *The Top 25 Grossing Films of All Time* (2001), Brendan Dawes' "visual fingerprints" of movies using the montage visualisation, or the colour visualisations of film classics by the art group Société Réaliste in the exhibition *Empire, State, Building* (2011).\(^{968}\)

With the exception of Cory Arcangel's piece, these works remain quite conventional by staying safely within a classic reference frame of canonical films. In that aspect, they do not drastically challenge the choices made by scholars when choosing material for digital analysis. Yet, in their reflexive approach they can be taken to gesture beyond the canonical reference frame by highlighting the contingency of the techniques which form the basis of digital film historiography's research dispositifs. For this reason, I value these works as reflections on and appropriations of visual analytics which critically interrogate the processes which underlie scientific image production and question the ways in which scholars pre-constitute their objects of analysis. They call into question visual analytics' production of facts to expose their analytical fetishes and may in doing so invite scholars to imagine alternative analytical focal points and research avenues.\(^{969}\) In this aspect, I also consider these works to nurture a more radical historicity, because they point to the inherently biased and subjective enterprise of history making as a challenge to the proceduralisms and potential reductionism of contemporary digital methods. In doing so they fulfil what I consider an essential function of artistic research because they suggest alternative ways of approaching and analysing data in a way which underlines – or even undermines - their process of acquiring evidentiary status.

Yet, while I find these approaches to offer useful reflections on the processes and procedures of film historiography I also consider them in need of further development. First of all, I wish they could comprise a greater variety of visual analytics, including not only the diagrammatic forms familiar from what I have discussed in this dissertation as the philological research dispositif but also for instance New Cinema History's GIS visualisations. In this respect it would be interesting to see interpretations of GIS interfaces made by map artists similar to initiatives in scholarly cartography where artists and cartographers discuss and develop map visualisations together.\(^{970}\)

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\(^{970}\) For an impression of the rich, ongoing exchange between cartographers and artists in contemporary cartography, beyond film studies, it is worth visiting the blog of the International Cartographic Association’s Commission on Art and Cartography: [https://artcarto.wordpress.com/](https://artcarto.wordpress.com/), last accessed January 24, 2017.
Second, I wish these practices could be further advanced in collaboration between academic film scholars, archives and data artists – the three A's - to establish fruitful methodological encounters, critical insights and dialogues. A couple of film heritage institutions, have developed creative re-use projects inviting artists to make remixes, such as in EYE Filmmuseum's projects *Scene Machine* (2010) and *Celluloid Remix* (2009 and 2012), based on small film selections from their digitised collections prepared by curators. Yet, to productively develop the tradition of found footage and its critical relevance by forging links to data art I believe there is an urgent need to go beyond the scope of such efforts and create projects which let artists use and appropriate visual analytics for larger digitised corpora. In this regard, there is a need to forge links between scholarly, semantic annotation of content, material-specific and geographical features and data art's appropriations of them and make digitised collection and software available to artists on a broader scale. This could for instance take the form of artist-in-residence programs in film heritage institutions. In doing so, I believe that creatives and artists can gain a new position as mediators between film historians and archivists to produce critical insights into the material and stylistic histories of film heritage collections. A very small number of scholars – working primarily with films from the specialised DVD repertory – are beginning to work in this direction. For instance Kevin L. Ferguson whose visualisation work in his own words “balances between both new media art and digital humanities scholarship”.

Yet, while such work – in addition to the examples discussed in this section – sketches the contours of a beginning, I believe there remains a great effort to be done to forge links between scholarly, archival and artistic film historiography. Doing so, I think, may ultimately contribute to developing a new dynamics within the network of agents which in past decades has produced the exciting interpretative processes and tensions which open new research avenues and which make film history.

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971 Kevin L. Ferguson, op.cit., 279.