ABSTRACT Through an analysis of the SP-ARK archive and the archival structure developed by the DEEP FILM Access Project (DFAP), which was a collaboration among film researchers, computer scientists, archival institutions, and a film production company, this essay explores the dailiness and feminization of filmmaking and film archival practices, which have been made visible through digital methodologies. **KEYWORDS** digital archives, film archives, film industry, filmmaking, Sally Potter

Through the foregrounding of dailiness as a working principle in filmmaking production and as an organizational approach to archiving, this article, and the research projects that it documents, advances studies into feminizations of filmmaking and aims to extend film archival practices. I first address the limited attention that is given to the study of film practice and process: current approaches to film theory and criticism prioritize the study of the complete film text. I acknowledge the endemic (under)representation of women in film industry careers and the feminization of certain roles in the film production workflow, and I expound upon current approaches to the archiving of filmmaking, predominantly those adopted within national archival institutions. I propose that these approaches both inhibit and limit the study of film practice and reaffirm the underrepresentation of women in film practice through their structuring and organizational principles. I argue that these at best occlude and at worst render invisible women’s contributions to the filmmaking process. I propose that current digital archival structures replicate analogue process and practice, a characteristic also inherent to and embedded within digital filmmaking workflows, whereby analogue process and practice are enshrined in emergent digital working procedures and terminology. This, I argue, is a transitional measure that serves only as a means to support analogue practitioners through a period of digital transformation. Last, I discuss two case studies—SP-ARK and
the DEEP FILM Access Project (DFAP)—which are both research projects born from collaborations among film researchers, computer scientists, archival institutions, and film production professionals (figures 1, 2). The aim of the first project was to digitize, preserve, and present in interactive form the production materials from Sally Potter’s 1992 film *Orlando*. The goal of the second was to model a new archival ontology based on materials generated by Potter’s 2012 film *Ginger & Rosa*. Both projects sought to address gaps in film studies approaches and archival methodologies, in the first instance by presenting materials generated by the filmmaking process in order to facilitate and further academic study in the field, and in the second to open up other forms of film scholarship within digital environments through the proposition of an alternate archival structure that would challenge, advance, and change current national archival institution practice.

**CONTEXT**

Until recently, the academic field of film theory and criticism has been predicated predominantly upon analysis of the final product (the film), with a distinct lack of critical attention focused on the processes and conditions of production.
(There are a number of notable exceptions; the amount and visibility of such studies are increasing.) As Sidn Reynolds has observed, “What might be called the ‘labor history’ of the cinema is on the whole a less-prospected territory.” Historically, there have always been many “hidden,” behind-the-scenes vocations in feature filmmaking, representing “below-the-line” labor of which little is known outside the filmmaking professions. This lack of attention given to the filmmaking process in film studies scholarship, and the subsequent invisibility of agents in that process, has been compounded by the dominance of auteur theory in film studies. As Dai Vaughan has noted in his study of film editors: “By affecting to reject individualism—the cult of the director’s personality—the auteurists have created a criticism in which no one but the director may be discussed; and this, while not even satisfying the desiderata of critical purity, sets the seal of
academic approval upon the exclusion of ‘technicians’ from all other discourses: and film, the most collaborative of the arts, is stuck with a literature which cannot at any level handle the idea of collaboration.” Vaughan goes on to state that “if all that concerns us is to group texts according to common signature, then why not pick on the camera-operator, the electrician, the grader . . . ? In selecting directors as auteurs, critics are acknowledging—quite rightly—that the director makes a special contribution to the films which bear his or her credit. But it is one thing to make a special contribution—even the greatest contribution—and quite another to be the sole author.” This universal invisibility of the filmmaking process has inevitably meant that women have been further hidden from view. As Yvonne Tasker has noted: “Auteurism privileges the authored text over the complexities of context. At the same time, the work of feminist film historians in documenting the contribution of women to the film industry represents not only an important attempt to write women’s history, but a rejection of the claims made by, or more typically on behalf of, one person—the male director—to have priority over the text.”

Similarly, Judith Mayne has commented that “it can be argued that the privileging of female authorship risks appropriating, for women, an extremely patriarchal notion of cinematic creation.” It is widely known that women are significantly underrepresented in feature film crews internationally. For example, one recent report highlighting gender inequality in film production crews notes that the percentage of women on British films has barely changed in the past five years. The camera department is particularly underrepresented: the same study, undertaken between 1994 and 2013 of the two thousand highest-grossing films, has revealed that “of all the departments, the Camera and Electrical department is the most male, with only 5% women.”

More recently, a flurry of mainstream media attention has focused on the underrepresentation of women in the film industry, a topic brought to the foreground by a number of high-profile A-list film celebrities. These have included Sadie Frost, who, to make her most recent film, Buttercup Bill, employed a team which was 80 percent female in order to raise awareness of the imbalance. In April 2015, Meryl Streep established a screenwriters’ lab for women over the age of forty in order to increase the diversity of voices in the film industry.

There has been a notable concentration of women performing certain roles in film crews. As Sophie Mayer has noted, “invisible labor in cinema” is often carried out by women. Such roles have tended to focus upon logistical and organizational tasks, including production management, producing, and continuity. In earlier research, Sidn Reynolds notes that “a significant number of
editors of French films, even in the 1930s, and to a much greater extent thereafter, have been women,” thus illuminating Jean-Luc Godard’s gender distinction: “Tourner est masculin, monter féminin” (Shooting is masculine, editing is feminine). There is an implicit and notable feminization of certain roles. As David Hesmondhalgh and Sarah Baker explain, “Feminization’ rarely refers to a predominantly male occupation becoming predominantly female. Instead it tends to denote an increase in the concentration of women within that occupation.”

Melanie Williams has published a significant historical study of the role of continuity/script supervisors and the notable feminization of their identity as “continuity girls” or “script girls.” As Sue Harper points out, continuity’s designation as a “female prerogative” has resulted in an “attendant lack of status.”

Phyl Ross argues that continuity “isn’t a very suitable job for men, because of its very detailed nature.” Harper explores a number of roles in her 2000 study, including those of producers, writers, directors, costume designers, art directors, and editors, concluding, “It is clear that certain film professions can be more easily combined with childcare. Editing or scriptwriting fall into this category, while art direction does not.” Vicky Ball and Melanie Bell describe “an audience of industry women at a BECTU [Broadcasting, Entertainment, Cinematograph and Theatre Union] Women’s Conference at the TUC [Trades Union Congress] where delegates spoke of explicit and implicit gender discrimination in hiring practices, workload allocation and pay. Individuals, particularly in a freelance marketplace, are unfavorably positioned to tackle structural inequalities.”

CURRENT FILM ARCHIVAL APPROACHES

Film archives tend to operate under the organizing principle of the master text, the final film. The theoretical term for this archival structuring principle is the fonds, defined by the Society of American Archivists as “the entire body of records of an organization, family, or individual that have been created and accumulated as the result of an organic process reflecting the functions of the creator.” Terry Cook explains: “The fonds is thus the conceptual ‘whole’ that reflects an organic process in which a records creator produces or accumulates series of records which themselves exhibit a natural unity based on shared function, activity, form or use. It is at the heart of this process or relationship linking the creator to the records that the essence of respect des fonds can be found and must be protected.” A number of archives created by film directors support the auteur theory through their centralization of the director as both the key organizing principle and the dominant visual aesthetic of the archive. This is
clearly visible in two examples: the first is David Cronenberg’s online virtual exhibition, which adopts an interactive timeline approach that enables fluid navigation among a number of different elements in the archive and is stylistically designed and imbued with the director’s authorial imprint through the application of a number of dominant authorial aesthetics (while excluding any reference or acknowledgment to any other members of the film crew in the narrative of the film’s creation).23 The second is *The Stanley Kubrick Archives* book (2008), in which the main organizing principle is again the film and the stability of the collection of assets is anchored on the text of the film itself.24

Within the structural modes of both the Cronenberg and Kubrick archives, the assets are not presented in the order in which they were created during the filmmaking process. This has led to omissions in the capture and preservation of the procedural aspects of filmmaking, the conditions and politics of production, and what Rachel Moseley and Helen Wheatley refer to as “archiving the ordinary” in their observation of televisual archives’ lack of feminist programming.25

I propose that archival structures and representations—naming conventions, organizing principles, and the arrangements and presentation of materials—give rise to a compelling aesthetic of the materials and the context of their generation. As well as telling an intrinsic story about the technical tools and technologies of the day, archiving approaches and methods expose working practices and reveal cultural references and implicit assumptions about the organization of knowledge. Online versions of archives, the nature of their design, and access to them also reveal structures of control.26 In posing their titular question—“Is archiving a feminist issue?”—Moseley and Wheatley draw attention to the ways in which archiving practices affect and produce the kinds of histories that can be written.27 Ball and Bell comment:

> Many of the roles in which women have been employed leave little or no archival trace. Much film and television production practice goes unrecorded anyway, but this is particularly acute around auxiliary or “supplementary” roles where a disproportionate number of women have made their contribution to production.28

The invisibility of both process and personnel as previously described is inscribed in such a strategy in which the final film is prioritized as the core archival object under which all associated archival assets are organized. The historicization of the final film takes precedence in the archive as opposed to the process of the film’s production. Invisibility is a recurring motif in film
production in which practitioners perfect the invisibility of their process by the
nature of their work. This carries forward into the self-representations of their
process. As Melanie Williams has observed:

Continuity is a job that hinges on invisibility, noticed only if it is not
done properly via continuity errors which render visible the processes of filmmaking that should ordinarily be invisible. It is thus very similar to the way
that housework was conceptualized by feminists, as work that must be done
but is noticed only in the breach rather than the observance. This invisibility
has been compounded by implicitly gendered archiving and cataloguing
practices which have obscured or marginalized women’s contribution to the
production of film and television. Feminist scholars are not alone in this
respect; all historians have to work within (and against) acquisition
categories and archiving practices which raise questions about power and
agency, and which shape the kinds of histories that it is possible to write.

There are a number of exceptional female archiving projects that attempt to
bring to the fore hitherto-underrepresented female histories of film production.
These include the Women Film Pioneers Project (WFPP), a freely accessible,
collaborative online database that showcases hundreds of women who worked
behind the scenes of the silent film industry as directors, producers, editors, and
more. There is also Script Supervisors UK, a website created by three British-based
women script supervisors that aims to increase greater understanding of
the craft. Costume Detail, a site set up by costume designer Jane Petrie, reveals
and documents some of her working practices.

The organizing principles and strategies that are adopted for the archiv-
ing of film assets in the ways described above are almost always imposed
upon collections after the film production process. In such cases, the asset
collection is disassembled—if indeed it ever existed as an assembled and co-
herently linked set of assets. In most film productions, particularly those in
the independent sector, generated assets are each saved in different locations
and/or to different devices and are the responsibility of different depart-
ments and individuals. The existence of a “total” film archive at the point
of a film’s delivery is a fallacy. In its gestalt form, a “total” archive, in which
all assets of a film production archive are linked, and the integrity of those links
and the relationships that they represent are preserved, would present opportu-
nities for researchers, film fans, and future audiences to interrogate and explore
the archive in myriad ways.
ARCHIVAL STRUCTURING IN SP-ARK AND DFAP

Sophie Mayer has described SP-ARK, Potter’s current online archive, which hosts the materials of the director’s film *Orlando*, as making “visible the unvalued, and thus feminized, activity of filmmaking . . . It reflects the dailiness of labor involved in filmmaking as opposed to the heroic narrative portrayed in mainstream films.”

In contrast to the archival strategies currently deployed by national archival institutions such as the British Film Institute (BFI), the key tenet of both SP-ARK and DFAP, and of their management of production assets in the film workflow, is “dailiness”—that is, all the resources that are generated are organized into systems that pertain to the day on which they were generated. See, for example, the organization of the Avid “bins.” The bins are referred to as “dailies” to indicate the storage of a day’s worth of material (figure 3). The term is an example of the many instances of extant analogue terminology, a vestige of photochemical workflow. Within the digital environments of SP-ARK and DFAP, and through the application of the known and established synonyms of film production, the visibility of the dailiness and the feminization that Mayer refers to is extended and deepened. As Donna Haraway has suggested: “Feminists have recently claimed that women are given to dailiness, that women more than men somehow sustain daily life, and so have a privileged epistemological position potentially. There is a compelling aspect to this claim, one that makes visible unvalued female activity and names it as the ground of life.”

Through digital archival methods, the entire life cycle of *Ginger & Rosa* was interrogated by DFAP, from idea to distribution to audience reception and archiving. Including interviews with every person involved in the film’s making, the archive revealed the often hidden working practices and cultures that underpinned contemporary filmmaking during a compelling period of analogue-to-digital transition. While Potter is considered to be an auteur in her creative style and output, her working practices are recorded as collaborative and inclusive, and thus are feminized.

Through the digital practice of developing of a semantic infrastructure that integrated all the metadata and data generated during the production life cycle of *Ginger & Rosa*, DFAP systematized the intricate web of the filmmaking process in ontological form. Through its circuit-board connectivity, it showed the close interrelations and fragmentation of labor among disparate workers at opposite ends of the film production and film archival chain.
FIGURE 3. The use of bins prioritizes “dailies” as the primary organizing principle. Rushes are reorganized into scenes in order to reflect the temporal and chronological ordering of the film’s fictional timelines. (Avid Media Composer Software)
The SP-ARK archival infrastructure, which was initially designed through a knowledge transfer partnership between Adventure Pictures (Potter’s production company) and the University of Essex, was used by the DFAP research team as the reference point from which to develop a set of organizing principles for the DFAP ontology. The infrastructure is based upon the ordering of the traditional film production workflow cycle: from development, preproduction, production, and postproduction to creation of the finished film and distribution (figure 4). Archival items were then broken down into subcategories according to the elements of production process and set in the temporal order in which they were generated. It is the long-embedded history of film

![Figure 4](http://bulletcreative.com/)

**Figure 4.** The entire film production process is compiled in this visualization. Each segment represents a day’s worth of activity in the production cycle. Each color represents one of the departments that compose the production crew. Visualization by Bullet Creative. (http://bulletcreative.com/)
production workflow that dictates this organizational structure, one that I refer to as a process-led approach. This approach is to be expected, given that the archive’s organizational structure derives from the film production company responsible for the generation of the materials that are housed within it.

In this sense, the way that the archive has been structured provides insights into the nature of film production for the period in which it was designed, or, in this case, for the film for which it was designed: *Orlando.* The SP-ARK infrastructure was defined and designed some twenty years after the film was released, in 2012. An archival aesthetics is revealed that inevitably shapes any and all future engagements with the archive. These design and organizational principles contrast directly with those of a number of film archival institutions, which often inherit disparate collections of film production collections and are required to reassemble and catalogue them into a meaningful structure to enable audience access. In their approach to cataloguing, these institutions are guided by what I refer to as an object-led approach. The object category takes priority in this system: categories include design, document, ephemera, photograph, poster, and script. These are then subdivided by object types: e.g., document: production, design: costume, and script: continuity.

DFAP was undertaken in collaboration with film production practitioners and archive curation specialists who aimed to support a new framework of standards for recording and linking data during the production of feature films. Project partners included the BBC, the BFI, Screen Archive South East, and Adventure Pictures. By working with the entire corpus of materials generated by the film’s production, DFAP addressed the complexity of relationships and interconnections among diverse data types, from scripts and emails between directors and producers to budget information, shooting schedules, digital film and sound files, and Polaroid photographs taken for continuity.

The data set was highly complex in nature. All data, files, and materials that were generated were implicitly interlinked, but connections were both unrecorded and lost throughout the production process. During the making of any independent or commercial feature film, the dominant imperative of all those involved is to move efficiently through the production workflow, on schedule and on budget. Thus files are changed, overwritten, and deleted as part of the efficiency methods employed throughout the process to facilitate smooth data flow and to keep processes running smoothly on set. This implicit data loss is compounded by the fact that there is generally no established archival strategy factored into the film
production process—materials quickly become separated across geographic and physical locations as they are dispersed across hard drives and servers, making the collation of data at the end of the production fraught with challenges. In addition, the film production process is myopic: the key objective is to get from one stage in the process to the next in order to sustain the pace and velocity of the workflow. There tends to be no archival strategy embedded in this approach to workflow. DFAP faced such obstacles, too, even though its efforts began shortly after the completion of *Ginger & Rosa*.

These two factors—complexity and the lack of an archival system—made it an exceptionally challenging task to bring together the data set in its entirety and begin modeling and ontological design. DFAP’s work involved the re-creation of many production documents and files by the film’s production team to resolve gaps and discrepancies in the workflow. Links between items were broken, and the assets were reorganized and reassembled in accordance with the archive’s organizational structure.

DFAP’s approach foregrounded the processual—that is, resources are procedurally organized within its archival structure—in a temporally based linear framework. The concatenation of processes reflected the dailiness of the production workflow, thus revealing the conditions of production. By working closely with the film production professionals who were responsible for generating assets, the archival structure could take shape based on the temporal ordering of workflow throughout the production, inheriting the underpinning principles of that workflow in a period of analogue-to-digital transition. The archival structure therefore reflects and records the working processes of the time that *Ginger & Rosa* was made (2012 and 2013). This approach reflects Derrida’s proposition that “the technical structure of the archiving archive also determines the structure of the archivable content even in its very coming into existence and in its relationship to the future. The archivization produces as much as it records the event.”

Figure 5 illustrates how the development of the DFAP ontology began with a breakdown of film production phases (i.e., preproduction, production, and post-production) into their component “operations.” Each operation was undertaken by one or a number of production personnel, or “agents,” and resulted in the production of a “product” that generally could be considered an archivable asset, such as contracts, work permits, reports, call sheets, or video files. (File extensions were also added, since a level of complexity around the diverse range of file types can be generated.) The product then led to the next operation. The diagram
presented in figure 5 is a mere slice taken from the overall process, but it is used here to illustrate that when the film production process is mapped in this way, emergent patterns become visible. The visibility of the various crew members behind each process and output was a key facet of DFAP, since these players are absent in the archival models (object-led and process-led) previously described. While DFAP adopted a process-led approach, it also included the elements of the objects and the agents of production, thus providing a holistic picture of the process.

CONCLUSION
The key organizing principles of SP-ARK’s and DFAP’s archival resources were the film production workflow and the interaction among the agents of that workflow, thus representing the process as a collaborative, procedural, labor-intensive, and inclusive endeavor. This approach was in deliberate opposition to other archival strategies that favor the grand narrative of text or of the auteur, and thus it was a new representation of film practice and process that foregrounded the collaborative aspects of film production and rendered visible the previously hidden and invisible, exposing underrepresentations and omissions. This approach aimed to pave the way for new forms of film scholarship wherein both

FIGURE 5. The DFAP workflow ontology. (Source: Jos Lehmann, Sarah Atkinson, and Roger Evans.)
digital archival methods and production studies could be advanced, which would enable future exploration of alternative histories of film production that would be both representative and inclusive.

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NOTES

1. SP-ARK, an interactive online project based on the multimedia archive of filmmaker Sally Potter, is freely accessible at www.sp-ark.org.uk. The DEEP FILM Access Project (DFAP) was an AHRC-funded big data project; see http://arts.brighton.ac.uk/projects/deep-film-access-project-dfap.


6. Ibid., 8.


10. Ibid., 3.


33. http://costumedetail.blogspot.co.uk.
35. Avid is the industry-standard nonlinear editing software on which film rushes are organized and cut. Bins is the name given to the folders or directories that are created to organize all clips into a meaningful order for the editor, i.e., into dailies or scene numbers. The term bin refers to the cloth sacks in which photochemical film was once hung.