Shaping Physicality and Forming Rhythm: Technology, Gender, and the Pulse of Editing

Owing to the challenge involved in conceptualising a cut, editing is often called the “invisible art”.¹ This moniker is especially appropriate given the lack of analysis on the material spaces in which editors work, and how this impacts their craft. The issue is partly symptomatic of a wider gap in the study of cinema. As Siân Reynolds points out, film analysis tends to focus on the cultural meanings that films create.² Whilst film historians have expanded their scope to the contexts in which films are made, their work tends to focus on the financial structures of filmmaking rather than the physical spaces in which filmmakers create. Even considering this, literature on the editor’s work space is strikingly sparse. This is again connected to a scholarly gap, this time on the practise of editing. Many otherwise extensive Film Histories contain only sparing mentions of editing and montage. As Valerie Orpen points out, the Oxford History of World Cinemas, “does not even contain the words ‘editing’ or ‘montage in the index or the table of contents”.³ Barry Salt’s Film Style and Technology, generally an excellent source on the filmmaker’s tools, has little to say about an editor’s utensils.⁴ It’s evident that these gaps in academic knowledge - on both editing and the filmmaker’s artistic space - combine to create a particular dearth of information on the editor’s creative environment.

Don Fairservice provides a rare and informative summary of the editor’s workstation and how it has developed over time, but he relegates this work to the appendix of his book, Film Editing: History, Theory and Practice: Looking at the Invisible. His reason for the marginalisation is telling:

In the main text of Looking at the Invisible I have avoided as much as possible any detailed reference to the technological aspects of film editing, largely because much of this is not relevant to the creative considerations which have been my principal concern.⁵

Fairservice’s belief that technology is mostly irrelevant to “creative considerations” does not account for the impact technologies have on an editor’s working space. An editor’s working spaces matters because editing is such a rhythmic process. Editing involves building an almost subconscious sense of tempo. As such, the process of editing is just as much about feeling a film as it is thinking through it. Celebrated editor Dede Allen (Bonnie and Clyde) says that she never tries to “intellectually figure” her cuts, instead working to “get into the spirit” of a film.⁶ Lou Lombardo – editor of The Wild Bunch – shares a similar sentiment, describing editing as “all feeling”.⁷ Cutting a film involves sensing and shaping the tangible rhythm of one’s source material, and where and how you feel the film impacts this process. This essay will begin by analysing the physical contexts in which editors in the American film industry have worked, and how this has shaped their relationship to the perceived physicality of their work. It will become clear that wider cultural discourses can influence the way an editor

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⁵ Fairservice, 330.
interprets the materiality of their working space, and directly impact how they go about their craft. I will conclude this piece with analysis of how the editor’s space has been culturally represented in the American film industry, and how this has shaped the perceived materiality of editing.

For many editors, being close to the physical materials of filmmaking is a key part of moulding the rhythms of a film. Often, technological advancements seem to place a wedge between editors and their material, and by extension the tempo they are trying to shape. When synchronised sound was adopted in Hollywood, editors in the silent era faced this sense of distance. Silent era editors, referred to as “Cutters”, worked with a very basic set of tools. As an article in *Picture Play* Magazine (1916) points out, a cutter worked with “a pair of scissors and a can of cement glue”. Their work involved an intimate relationship with the film which they were refashioning. Cutters would hold the thin, black celluloid film over a light fixture so that they could see the images it stored. Some cutters used magnifying glasses, so that they could better view the details hidden within the 35mm film. It was possible to read the duration of a scene by looking at how much film it spanned. In this way, the film tape provided cutters with a physical index of the cadences they were creating. They would literally cut out the parts of the film reel that would be screened, and join these cut images together using a solvent. When the film was edited, cutters checked the length of their work by weighing it on “finely balanced scales” – one ounce equalled twelve and a half feet of film.

For Margaret Booth – an editor whose career began in the silent era – this was a time when editors were especially connected to the artistry and pulse of their craft:

> When you worked in the silent days, you learned about rhythm, and you learned to cut film like poetry. I think that’s one of the great accomplishments. Just to learn to cut from sound, you can become choppy.
As Fairservice points out, spectators did not expect silent films to maintain the same levels of continuity as their (synchronised) sound successors. As a result, there were not many limits on how one had to edit.\textsuperscript{16} As Booth points out, Cutters in the silent era could “throw the film around in any way” as long as they maintained a sense of tempo and spatial clarity in their work.\textsuperscript{17}

The development of synchronised sound, coupled with the automation of the editing process, seemed to threaten both the flexibility and the material intimacy that defined editing in the silent era. The first synchronised sound technologies – Movietone and Vitaphone – majorly restricted the freedom an editor had.\textsuperscript{18} Both of them required that sound and image tracks be kept together at all times. Cutters could no longer edit with the same freedom, because they risked disrupting the continuity of dialogue or background sound. For Booth, this restriction obscured the “poetry” and cadence of film editing.\textsuperscript{19} The creation of editing viewers seemed to compound this issue. In 1924 – just three years before the widespread advent of synchronised sound – an engineer named Iwan Surrier created the “Moviola editing machine” the first editing viewer to be widely used in the American film industry.\textsuperscript{20} Originally designed as a projector, the Moviola automated the process of feeding the film reel over light so it could be viewed.\textsuperscript{21} Editors would attach a film onto a reel, looping the film to a second reel just as one would with a projector.\textsuperscript{22} They would then feed and catch the film over the light fixture (which would later be replaced by an internal bulb). A magnifying lens was fitted above the film, so that the editor could see the images more clearly. One could run the film over the light by turning a crank handle. The machine did not totally disconnect the editor from their film, but they no longer spent as much time running the celluloid through their fingers. As a result, many editors chose not to move to the apparently more efficient technology. Introduced just before the onset of sound, the Moviola may have seemed the mechanical emblem of restricted editing for cutters who had worked in the silent era.

For other editors working in the 1960s, many of whom grew up working on the Moviola, the machine has come to hold a very different significance. Rather than cutting edge engineering, the Moviola speaks to a lost, non-technologised era of editing. This shift in attitudes is partly connected to other changes in the editor’s work space. Firstly, synchronised sound technology had evolved since its inception. By this point Film and sound tracks were no longer locked together.\textsuperscript{23} Editors could now cut and weave the soundtrack into movement patterns and continuous flows, just as they would the visual track. Secondly, the Moviola had been replaced by more efficient editing platforms. “Flat-Bed” systems – such as the “KEM” and the “Steenbeck” – became popular with editors in the 1950s and 60s.\textsuperscript{24} Flat-beds were quieter, faster, and displayed better quality image and sound than the Moviola.\textsuperscript{25} In a reversal of roles, some editors nonetheless chose to continue using the

\textsuperscript{16} Fairservice, 228.
\textsuperscript{17} Atkins, 53.
\textsuperscript{18} Fairservice, 228-29.
\textsuperscript{19} Atkins, 53.
\textsuperscript{21} Fairservice, 330
\textsuperscript{23} Fairservice, 229.
\textsuperscript{24} Ibid, 331.
mechanical viewer. For Dede Allen – who did not migrate - the Moviola put you “very close to the film”, and allowed you more time to “feel the bits and pieces” of the editing process. Given Allen’s focus on feeling the spirit of a film, it makes sense that she would prioritise a noticeably tangible editing experience. The idea that the Moviola increased the physicality of editing would seem strange to cutters from the silent era. In comparison to a Flat-bed system, however, its more understandable. An editor sat in front of a Flat-bed– mounted on a table - and turned a switch to move the reel. By contrast, the Moviola’s crank handle seems to be a very physical thing.

Indeed, the Moviola’s mechanical qualities did not appear to technological when compared to the electronic Flat-beds of the 60s. Micheal Knue – editor of *Sleepy Hollow* - even invokes the Moviola’s industrial quality as a proof its materiality,

> It is a machine that has to be handled. You had a brake, and you hit that brake...it varies the kind of motion, it’s much more physical.

Jack Tucker (editor of *Brothers at War*) reaffirms this non-technical perception when he describes how “organic” it is to work with the Moviola. As Knue references, later versions of the Moviola included a pair of pedals with which you could control the motion of the reel. Working these pedals became an important part of fashioning a film’s tempo for many editors. For Sandy Gendler (sound editor of *Independence Day*), the Moviola had its own rhythm which you had to adapt to – like a cowboy on the saddle of a horse. These editors saw the Moviola as more than just a less technological obstruction than the Flat-bed. For them, it became an intrinsic part of editing’s materiality.

> Fig 2. A Flatbed Editor.

How can we reconcile these two understandings of the Moviola and its impact on the editing space? For some silent era cutters, the Moviola was part of a series of technological advancements which

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26 Lobrutto. 67.
27 Ibid.
29 Steckler
30 Ibid.
31 Ibid.
robbed editors of their creativity and material closeness to the film. For others in the 50s and 60s, it embodied the organic physicality of a disappearing editing style. It is clear that the impact of an editor’s workstation is inflected by the cultural context in which this station exists. If a tool makes an editor feel alienated from the physicality of their process, it is read and experienced as an alien technology. If editors become used to a technology, or for any reason do not see it as outside of the editing process, it becomes part of that physicality.

These unstable meanings do not only relate to the Moviola. Tacita Dean – an Avant-Garde artist – understands the physicality of editing film very differently to those working within Hollywood. For Dean, the experience of working with analogue film was defined by the slow labour of viewing and splicing it. She describes editing with film as a “methodical and mulled over” experience. Such a reflective conception does not chime with the high paced, factory like conditions under which Margaret Booth worked. Booth began working in 1915, a time when American studios were beginning to build “film plants” based on the principles of factory line production. In 1920, Fox built a single studio capable of the handling the entire filmmaking process— from making the celluloid to filming and editing footage. The “Fox Factory” - capable of processing 3000 metres of film per week – is emblematic of the production line working style that Hollywood studios in this era aspired to. At the time, editing was understood to be a menial rather than creative task. As a result, editors were very much a part of this factory line of production. Cutters worked to tight deadlines that did not always allow for reflection. At times, they would still be making the final changes to the last reel of a film whilst the first ones were being projected at the title’s opening preview screening. Even after Hollywood’s factory line production methods faded out, editors still worked with deadlines in mind. Dede Allen admits that there were times when she was rushing to complete a first edit, and she would have to cut without playing the soundtrack. Clearly, the physical textures that linked Dean, Booth and Allen’s working space did not guarantee a shared experience of editing.

It’s clear that editing technologies do not have intrinsically set impacts on the work of an editor, but that does not mean that their effect is imaginary. The editors quoted in this essay have had influential careers within their chosen genres and industries. It would be remiss to downplay their perspectives, and each of them makes a connection between the space in which they edit and the pace of their craft. Some, like Dede Allen, even worked with inconvenient technologies to maintain the energy their workspace created. Tacita Dean’s exacting relationship with film may not be universally applicable, but there’s no reason to doubt that it shaped the art she made. There is nothing contradictory about seeing that an editor finds tangible rhythm through and within their working space, and that the qualities of that space (whether it is technological or organic, for example) are somewhat unstable and culturally constructed. So far, we have explored the ways in which the perceived physicality of an environment is reliant on discourse and comparison on the subject of technology for a sense of meaning. The editor’s space is also shaped in relation to wider cultural concepts, and this impacts how the film is cut. For example, women’s editing spaces are

33 Hatch
36 Ibid.
37 Atkins, 53.
38 Lobrutto, 80.
often inflected by dominant understandings of femininity, and this impacts the physicality of their process.

Since the 1900s, the role of the editor has often been more available to women than other Hollywood behind-the-camera roles. In the silent era of editing, the majority of preliminary film editors – or cutters – were women.\(^{39}\) This majority no longer exists, but women maintain a significant presence in the cutting room. A 2013 study found that 20% of 2012’s 250 highest revenue grossing American films had been edited by a woman.\(^{40}\) This percentage is significantly higher than the figures relating to women in cinematography (4%) or directing (7%).\(^{41}\) Why editing has proved to be a more achievable role for women is unclear. As Reynolds points out, it’s a subject that’s still in need of further “historical explanation and analysis”.\(^{42}\) We know that in the silent era, women were able to access roles in editing because it was considered a menial profession. Editing a tempo into a film – as discussed previously - has not always been recognised as a creative job, and it is possible that this oversight continues to create an avenue for women to take on the role. Ultimately though, this is only conjecture. Whilst the historical basis for women’s prominence in editing is an important topic of research, it is not the focus of this essay. Rather, I am interested in how the presence of women editors inflects cultural understandings of their workspace – and how this understanding impacts the physicality of their process.

The presence of women editors in the silent era is often connected to the apparent femininity of the work they were doing. In *The Cutting Edge: The Magic of Movie Editing*, Walter Murch suggests that editing was seen as a woman’s job because it was “something like sewing or knitting”.\(^{43}\) Kim Roberts – editor of *Food Inc* – makes a similar comparison in an interview for the New York Times, saying “Early on, women were hired to edit because it was considered menial labor, [sic] something like sewing.”\(^{44}\) The idea is that editors were weaving together pieces of celluloid film “fabric” in much the same way a seamstress would. Whilst there is validity in this comparison, it is slightly at odds with the actual process of joining film together in the silent era. Details of how films were joined together are hard to trace, but Fairservice has succeeded in putting together a tentative understanding of the process.\(^{45}\) It involved isolating the frames just before you wanted to make a cut, and scraping away the photographic surface of the film at this point. You would then apply a solvent to the thinned area, and hold the film strip close to the second piece of film it was being added to. The solvent would quickly bond together the two film strips. Whilst this process bears some similarity to sewing (it was probably done by hand), it seems fair to say that the comparison has been overemphasised. This is not the only time when the femininity of the editing space has been overstated. As Dominique Villain points out, women editors in the early French Film Industry were painted as a part of a “cosy” work environment that was “more legendary than real”.\(^{46}\)

\(^{39}\) Hatch.
\(^{41}\) Ibid.
\(^{42}\) Reynolds, 83.
\(^{45}\) Fairservice, 332.
\(^{46}\) Reynolds, 79.
Fig 3. The women in the “joining room” are very much a part of the factory line production in this image, which appears in Hatch’s article as part of the Women Film Pioneers Project.
Even as the technologies editors use have changed, feminised images of a woman’s editing space remain compelling in the American film industry. When editors began working in closer collaboration with directors – increasing their input on the overall direction of a film – the relationship was figured in the terms of a married couple. Thelma Schoonmaker references this image, comparing herself and director Martin Scorsese to “an old married couple.” When asked to describe her relationship with Quentin Tarantino, editor Sally Menke responded “Well, he’s survived two pregnancies with me!” The film crew of *Jaws* took to calling Verna Fields “Mother Cutter”, because she cut the film in an editing room at the back of her house. The name references the maternal domesticity of Fields’ working space. What is striking here is the very different material contexts in which metaphors of femininity arise. Whether working in factory like conditions, studio cutting rooms or even their own home – a woman’s role as an editor is likely to be gendered in public discourse.

In the case of Verna Fields, these feminising metaphors inflected the physicality of her working space. When Fields’ work editing *Jaws* is discussed, her maternal nickname is often the first thing to be mentioned. Descriptions of Fields’ editing room are employed to evoke this maternal persona. Stephen Spielberg – the film’s director – fondly remembers the room as beyond the reaches of technology:

> We all referred to Verna Fields as Mother Cutter. She was very earthy, very maternal. She cut her films at her house, at her pool house in the San Fernando Valley, and it was a very Amish kind of workplace.

Spielberg’s reference to Amish culture is particularly telling, since Amish people are famous for their reluctance to adopt modern technologies. For Spielberg, there seems to be an overlap between Fields’ maternity and the apparently non-technical quality of her editing space. He implicitly repositions her Flat-bed – the most modern available technology at the time *Jaws* was made – as part of this homely workspace. In this way, domestic metaphors worked to elide the technological aspects of Field’s editing process – redefining her work space as an “earthy” tangible place.

The feminisation of a woman’s editing space has a complex impact on her status in the creative process. In some ways it works to legitimise her presence in the cutting room, and even imbue her with an ownership of the space. As Karen Ward Mahar points out, working in Hollywood has been constructed as a masculine job. That masculinisation was not accidental: many male filmmakers in the 1930s explicitly worked to define Hollywood as a male space. As Anthony Rotundo argues, “The exclusion of women linked the bitterest of rivals in the solidarity of male professions.” This exclusion was achieved partly by the creation of all male spaces, like the MPDA (Motion Picture Director’s Association). The MPDA was an all-male fraternity where some of the most powerful executives and directors would meet to make key business decisions, free of the influence of

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49 *Apple*.
52 *Apple*.
54 Quoted in Ward, 83.
women. In this context, the existence of feminine spaces feels like an important tonic. Verna Field’s feminised cutting room – situated in her house – very much appeared to be her space. It was here that she battled with Spielberg over how long to expose his slightly unrealistic shark in *Jaws*. She convinced him to keep shots of the shark to a minimum, and build fear partly through the tempo of her editing. Additionally, Fields originally built the editing room so that she could stay near her children while she was cutting film. Clearly, this feminised space was pivotal to her life as a mother and to shaping the tempo of her material.

Unfortunately, these domestic metaphors can also work to reduce a woman’s editing skills to feminine traits perceived as innate, and ultimately exclude her from certain parts of the creative process. Comparisons which paint the director and the woman editor as husband and wife, for example, tend to position the editor in the supportive role. Quentin Tarantino’s desire to work with a “nurturing” woman editor who wouldn’t try to “win battles” over creative direction is a good example of this. Tarantino specifically wants to work with a female editor, but on the condition that they work under his vision. In addition, myths about the softness and innate femininity of editing work can actually work against women in the event of technological changes to the process. At the coming of sound, editing came to be considered an electronic, and therefore more masculine job. MGM editor Frank Lawrence went as far as saying that editing had become “too rough” for women. His claim is hard to fathom considering that female cutters often worked in genuinely unsafe, factory like conditions. It makes more sense when we remember the feminised legends of cosy cutting rooms that Villain has discussed. In this way, feminised understandings of the editing space have worked to erase the real work that women editors do in shaping the rhythms of a film, and limit their opportunity to do so again in the future.

What this essay has aimed to demonstrate is the role a sense of materiality plays in shaping a film’s tempo, and the processes that create this physicality. What emerges is a symbiotic interchange between the material qualities of an environment and the discourse surrounding it. Discourse and comparison can define the Moviola as either an overbearing technology or an organic part of the editing process. Verna Fields’ “Amish” cutting room is a fascinating reminder that physicality can even be inflected by wider cultural notions of gender. Vitally, the conception that you have imparts real impact on the materiality of your environment, and the way you grasp and cut a film’s rhythm.

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55 Ibid, 84.
56 Apple.
58 Apple.
59 Hatch.
60 Ward, 89.
61 Reynolds, 75.


Atkins, Irene Kahn. “Interview with Margaret Booth.” *Focus on Film #25* (Summer-Autumn 1975):


