Technological Change In The Postproduction Film Industry: Case Studies In Melbourne Australia

Introduction

The first and last stages of filmmaking – production and projection – remain relatively unchanged, but computerisation (through digitalization) has radically transformed film and sound editing (Murch, 2001). The aim here is to analyse some of the effects of this transformation on individuals working in sound and picture postproduction through examination of their work histories.

Methodology

The curriculum vitae of sixty postproduction workers provided longitudinal data, which is presented similarly to Paterson (2001). Of these, twenty workers were divided into four focus groups to reflect their time working in postproduction, stage in life, position and gender. They were interviewed in 2001. The case studies presented here are the result of these interviews.

From the beginning of film production until around 1995, film editing was a mechanical process done using a flatbed or upright system. The laboratory provided workprints of printed takes. The assistant editor matched the sound to the workprint, projected it to the cast and crew (rushes), logged and labelled it. When the editor cut a scene, the assistant stood nearby with alternatives takes as needed. As the workprint was physically cut and each change destroyed the previous version, only one version existed.

By contrast, computerised systems allow unlimited versions of the film. A workprint isn’t required, as the film is not cut until the negative is matched to the finished film. The laboratory provides tapes of the rushes, which the assistant processes into the editor’s computer (digitisation). The editor cuts the film on the computer, which is able to store multiple versions of scenes.

The editor and the assistant now work apart. Digitisation is usually done at night, to be on the editor’s machine by morning. By the end of the shoot, the editor has all the shot footage shot on their machine and doesn’t
need the assistant present. Assistants are expected to understand computer storage, maintain the computerised system and prepare different versions for different systems.

My study takes 1995 as the changeover year from mechanical to computerized editing as it was the last year the number of films edited digitally equaled the number edited mechanically. Since then the proportion of digitally edited films has increased and the number of mechanically edited films has decreased proportionally. Murch (2001:xi)

The rapidity of the changeover is shown by the absence of film handling skills in the group below all of whom began working after 1995.

Less than five years in the industry

Whereas once individuals tended to enter the industry from school, it is now common for industry entrants to have tertiary education and some of them enter after completing post-graduate courses in film and media. The main difficulty for this cohort appeared to be getting into the industry and staying in. There are fewer jobs in the film and television industry than people wishing to work and entrants have a high attrition rate.

Damien and Cate

Damien and Cate entered post as attachments on feature films. Attachments are similar to work experience and are an initiative by the state film body to help people into the industry.

Damien’s attachment was unpaid (though most are paid part-time) so he had to keep his part-time job. Over the next few years he edited student films for free and tried to find paid work.

It was very hard to find [second] assistant roles in postproduction. . . I'd ask a few editors and they would have an assistant and that was it. . . People were starting to cut things on Lightworks and Avids. . . That was certainly the case with documentaries. . . One editor was doing the lot and you couldn’t get in.

Cate was 25 when she entered the film industry after completing a Cinema Studies degree. She wanted to be an editor, did courses and edited student shorts until she got an attachment on a feature film.
I think I had a bit of a fairy-tale idea of editing... to do with the tangibility of film and working in close proximity to the editor... because all the reading I’d done was about the times when everything was done on film... I found the assistant’s job was very dull. It was digitising and a lot of the time you weren’t in the room with the editor. There wasn’t the mentorship that I thought there’d be.

Cate was frank about her prospects:

if my aim was to cut features there were very few features shot in Melbourne. The editors who were available were all young – forties – so they were going to be in the industry a long time. I didn’t feel there were a lot of opportunities for someone to come through, particularly as a woman. I thought of that a bit later too when I started thinking about having a family.

Cate decided earn money elsewhere. She is still involved in postproduction but doesn’t see it as a career:

While it is possible to gain a toehold in postproduction, the main problem is a lack of full-time entry-level jobs. The mechanised system was labour intensive enough to allow assistants full-time employment, a career path, the chance to learn craft skills and build a network. This is no longer possible. What is available is either part-time or short term and apt to come up at short notice. Damian’s inability to find flexible part-time work and his realisation of the uncertainty ahead convinced him that a postproduction career was not financially viable.

A study of young workers in technologically advanced industries found that ‘young people are under-represented in technologically advanced firms especially if they are producing advanced technology products’ (Whyte and Probert, 1991: 97) This would appear to be the case for those beginning in postproduction. This work was once full-time but is increasingly offered on a casual basis. What was once an inclusive experience is now an isolating one so that the experience of assistant editing and the assumptions made about the work and the meaning derived from it in its relationship to the craft of editing have been profoundly altered.
The age of responsibility – working parents

This group had worked in post for at least ten years, well before computerised systems were introduced. They worked in a freelance environment, but had enough full-time work as assistants to encourage them to continue and become editors. As parents they share a common pressure to provide for their families emotionally and financially.

Mothers

The main problem the women faced is common to many women – their careers begin to accelerate just when they feel established enough in their personal lives to have children. Other studies showed the salaries between men and women in this cohort diverging significantly with men’s salaries increasing and women’s falling behind. (BFI, 1999: 21).

Kristin entered postproduction in the mid-1980s looking for a creative job. She worked freelance until her first child was born. She was pessimistic about being able to combine freelance work and childcare so did teacher training and worked part-time teaching after her second child. With her children in school she wanted to return to editing but was intimidated by the amount of technological change that occurred during her eight-year break.

I’m competing with people who have been working in the last few years . . . they’ve been dealing with the technology that’s around at the moment . . . like DVC cameras for example . . . it does actually colour the way you approach them [potential employers].

Another mother, Jane, continued to edit after the birth of her two children but found her childcare commitments limited her to lower paying jobs.

While not causing Kristin and Jane’s difficulties, technological change appeared to intensify them. They work on lower budget productions, which require the editor to work the new systems without an assistant. Their work is too spasmodic to accumulate the capital to buy equipment and they are not established enough to be in demand. Consequently they experience the destabilisation and extra pressures of continually adapting to new systems.
Paul is a picture editor who began at a television production company (Crawfords Australia) as an assistant after getting a media degree and training as a teacher. After a year there he left to work on a feature film as a freelance assistant before returning as a freelance editor. Work was plentiful under the 10BA tax scheme and one job led to another. He first used a computerised system to edit in 1991 and found it much faster. There were problems with early systems but it was (and is) his assistant’s job to troubleshoot them. ‘I like to be able to rely on someone [the assistant] who is good at the computer because it’s not something I’m that interested in. I want to cut the pictures, I don’t want to be getting into the box.’ He bought his own equipment so that he doesn’t have to keep learning new operating systems.

Paul’s reputation and his relationships with producers who have ongoing television projects mean that he is able to stay employed but his role as provider limits his choices.

... do you do a TV series (where) you know what it’s going to be like but it’s goes for four or five months, or (do) you do a low-budget documentary (which) might be interesting, something different but they pay you half the wage. You tend to go [for the longer job].

Although the men in this case study are similar age to the women, their circumstances are markedly different. Paul and the two other men in his focus group had edited a feature film within two to six years of entering the postproduction industry while neither of the women had, even in Jane’s case after almost twenty years of experience. Unlike the women, the men had enjoyed continuous employment and could receive preferential treatment if their family circumstances were known.

**Responsible only to themselves**

This cohort is approximately the same age as the previous group but without family responsibilities. They have freedom and mobility to choose the type of work they wish, and in the case of the women have not had to take time out or restrict their hours in order to care for children. They too began their careers before computerised editing.
Catherine and Keith

Catherine entered postproduction in 1985 as an assistant after studying film and television at university. Around 1992 she decided to edit rather than assist but the transition was difficult as she had few contacts. She cut student films and no-budget feature films for nothing, juggling them between part-time jobs outside the film industry. Her marriage broke up because of the long hours she kept.

The change to computerised systems began while she was still working as an assistant and she was able to learn some prototype systems on the job. On the low-budget or no-budget films that Catherine works there is no assistant so she has to know the systems and do the assistant work as well as edit.

Catherine estimates her yearly income is A $15,000 as she refuses to do corporate films or commercials. She doesn't own a house or a car. Catherine has worked as an editor for four years but she is still not established. Networking is a vital part of her survival strategy but she gets work only if the known editors are already employed. She is vulnerable to production downturns; 2000 was such a year. At the time of the interview she had been unemployed for six months.

One of the traditional methods of getting more prestigious work is to align oneself with an upcoming director. Catherine sometimes works for free to establish a relationship that might payoff later but it's risky:

...I've supported a filmmaker not only with the film but done other bits and pieces on the side—show reels, promos, teasers—then found they've gone with someone else...it's happening more and more often.

Keith entered postproduction as a Crawfords trainee in 1973. He trained as an assistant editor and became an editor at Crawfords. After four years, he realised he could make more money and receive more artistic satisfaction as a freelance assistant. He began editing feature films in 1983. The second feature he edited won several awards, which gave him an instant reputation. He has worked consistently since then and is regarded as one of the top editors in Australia. Although he doesn’t have to pursue work, his income is determined by production fluctuations outside his control.
You assume that eventually as you go on [and] get successful that you should be able to pick and choose and . . . get more money. But that's not true. I do get to pick and choose a little bit but I don't get paid any more money. I'm getting the same as I was about ten years ago. And there's less work around.

**Post production Supervisors – a new breed**

While the creative skills needed to edit a film – organising ideas using sound and vision - have remained the same, computerisation has changed the methods by which the film is organised. When film editing was mechanised, the process was sequential. When the cut of the film was finished it was 'locked off' and given to the sound editors to create the sound track.

Computerisation allows the editor to concentrate purely on editing but at present requires significant technical organization. The job of postproduction supervisor has evolved from the need to organise and oversee all these technical procedures from the beginning of the production until the end. Technological change has blurred the demarcation of this job. Depending on the needs of the production a postsupervisor can

mean somebody sitting in an office just organising everything over the phone and doing the paperwork . . . to somebody who is a postproduction producer, who takes full responsibility for the budget, the personnel, everything. It just depends on the size of the production, the complexity of the production... you cannot define it really because it's always going to change. (Bart, post-supervisor)

The postsupervisor can be recruited from the producer's office, a specialist in their own right or they may be the assistant editor employed to stay on and oversee the production after the editor finishes cutting. Interestingly editors rarely postsupervise. They are increasingly defined as the person who edits the film and that is all. While their position has become more rigid the dynamic state of the postsupervisor position around them has created a number of 'holes' that have allowed entry to workers from diverse backgrounds.

**David and Simon**

David came from an audio engineering and IT background. He was employed to look after the computer systems of postproduction facilities.
Eventually he was offered a four-week postproduction supervisor job at Crawfords when someone fell sick. The job gave him financial responsibility for the postproduction of the series.

I was left in the deep end . . . trying to work out how (to) achieve all this stuff without a lot of knowledge to draw on. . . . postsupervisors are even less common than editors and trying to find people you could talk to about what’s the best way of going for this and what’s the best way of going for that – it was very difficult.

David wants to continue working as a postsupervisor. He sees his job as finding the best choice for a production when there are a bewildering number of technical options to choose from.

Simon first worked as a postsupervisor when his job as assistant editor was extended to cover the end of postproduction on a feature and a series. He sees himself as a postsupervisor and an assistant editor. He entered postproduction with the desire to become an editor, an ambition he still has. Unlike David he has no technical background. His first job was digitising rushes.

I started at 10:00 or 11:00 [at night] and worked till 3:00, 4:00, 5:00. It was not uncommon for me to be there when the editor turned up for work because I was going in basically untrained, so even fairly simple tasks – sometimes things went wrong and I didn’t know how to fix it.

When Simon works as a postsupervisor he still does the assistant work – looking after the editors and keeping the systems running – but as postsupervisor he has the additional responsibility of co-ordinating the postproduction requirements of the entire series. This means he is responsible to the producer and the sound department as well as the editors. He is employed slightly longer as a post-supervisor but despite the extra responsibility he is still paid as an assistant.

Simon sees his move into editing as a long-term goal. He feels editing is more fulfilling creatively and editors have a less-pressurised lifestyle. ‘[Editors] can have families and kids . . . they have more time. They don’t work as long hours.’ But this group acknowledged that only those who have a reputation could exercise any kind of control over their working conditions. ‘If you’re still developing there’s no way you can do it [take a holiday]. You’ve got to take the work.’
Career anchoring and stability

The case studies show that while an individual is the determiner of his or her own career, technological change has given the established editors distinct advantages over others. These advantages are most readily reflected in terms of stability and therefore career anchoring.

Computerised sound effects dispensed with the need for magnetic stock and the mechanical Movieolas, which always broke down. Ordering reprints and laying tracks with magnetic sound were major parts of the sound assistant’s job and when magnetic sound disappeared sound assistants became redundant. Picture assistants have not disappeared but their role has shifted to that of technical organiser. That career path does not necessarily prepare them to be editors so this generation of established sound and picture editors has very little competition, which has increased their job stability.

Computerisation has meant that film and sound editors can concentrate on editing and computerisation has made the actual mechanics of editing less onerous and time consuming than in the past. Editors don’t stay around for the whole postproduction process and their working hours are shorter. While the former can be seen as a disadvantage in that they are back on the job market sooner, the latter is definitely a plus for those with families. For sound editors in particular, the economies of scale and the increased vertical integration of sound facilities that computerisation allows has increased their job security. Nor do they have to look for work; the facilities to find the work for him.

Further, the established editors have not had to develop their skill base beyond learning how to operate the new equipment. If they own their own equipment or are established enough dictate their preference they don’t have to learn more than one system.

The cohort of editors described above is not homogenous. The most obvious difference is gender. Women have more difficulty establishing themselves as editors and consequently were not far enough along their career paths to benefit from technological change. This is evident where women have taken time out to have children but is present even in the careers of women without children. Those working at the low-budget end
of the industry have generally noticed deterioration in their working conditions as budgets have been squeezed to accommodate the new technology. Their job descriptions usually include the work that would normally be done by the assistant on a higher budget production. Job instability is increased as editors at this level normally get work only when the other more established editors are already employed.

Differences in personal circumstances are a significant factor in career anchoring among women too. Those with children tend to have weaker career anchors than those without. Both cohorts often looked for income streams outside postproduction but women with children sought regular hours rather than income. Outside jobs with regular hours (usually teaching) often seduced the women with children out of postproduction. Conversely women without children used outside jobs as a means of staying in the industry.

78-83% of editors in the ACE qualitative survey felt that assistant editors did not receive adequate training in regard to creative skills (1999: 11). Perhaps their belief is confirmed by the fact that only 53% of assistants agreed (1999: 11). Perhaps though it is those higher in the food chain who may prove more of a threat. Anecdotal evidence in the interviews cited instances of producers and directors editing themselves once they knew how to operate the system. This may well occur in lower budget or self-funded productions where one person is likely to take on these roles and in an increasingly cash-strapped industry may prove a threat to assistants wanting to make the transition to editor.

Progression and reputations

One of the challenges facing postproduction workers was how to successfully negotiate career progression, most commonly the progression from assistant to editor. The case studies showed the advantage of beginning one’s career in an institution. If the transition from assistant to editor was made within the organisation, one could start freelance as an established editor with the credits that secured a reputation. Anecdotal evidence from the interviews cites fairly rapid career progression at Crawfords: ‘It was always so that you’d be able to takeover as an editor
one day. And that period generally . . . was a couple of years.' (Fred, sound editor) In an industry that relies on confidence, producers are reluctant to take risks on first-timers hence the importance of a reputation. Reputation can be established quickly if one has the good fortune to be in the right place at the right time:

... the second feature I cut was successful. I won an award for it so all of a sudden I became a name. It doesn't mean necessarily that I'm a better editor than anyone else... Jane [editor] hasn't won that award, that's the reason she doesn't get rung up for jobs. (Keith, award-winning editor)

The importance of reputation is clear when looking at the case studies. The decision to become an editor can be economically perilous without an established reputation. Catherine's case study showed her working for three years for nothing when she became an editor and, in her efforts to secure a reputation she has worked for nothing with a director she feels might be successful.

The separation of editor and assistant has made career progression more difficult for assistants who want to be editors. Entry-level work is much more part-time. and those who made it into fulltime freelance assistant work have more time-consuming technical demands and less time to focus on creative skills than those who worked in the mechanised system. While in theory computerised systems mean that the assistants can edit an entire version of the film themselves, in practise the demands of the job prevent them from doing this.

Conclusion

Postproduction workers often cited 'the chance to be creative' as their rationale for choosing postproduction. Creativity here is taken to mean aesthetic self-expression. How has computerisation affected this expectation? A common response from established editors was, 'liberating, inspiring and creative'. The effect of computerisation on creativity in postproduction appeared consistent with its effect overall. Evidence suggested that computerisation meant conditions improved for those at the top but changed skill requirements for those in the middle and worsened conditions for those at the bottom.
Rather than precipitate radical change computerisation appeared to intensify trends already present within the traditional postproduction structure. For example, the disadvantages faced by women—discrimination, perceived lack of technical ability, lack of confidence and lack of opportunity as well as career interruption and a slower career trajectory appeared to have intensified with computerisation and disadvantaged them further.

Computerisation had the most complex effects in terms of job structure on assistants and those trying to establish themselves as editors. The latter enjoyed the creative benefits of computerised editing when they edited but they often had to take on additional technical responsibilities. Assistants, whose job it was to prepare the material, never described their jobs as creative but in a mechanised system through working closely with the editor were still connected to the creative pulse of the film. Through system integration computerisation removed this creative connection and so shifted the axis of the assistant’s job away from editing and towards technical organisation. Assistants wishing to follow the traditional career path to editor are likely to be frustrated because of lack of creative access. Computer workstations are still more expensive than mechanised systems and higher costs and fewer productions make producers less inclined to risk unknown players.

Those trying to find traditional entry-level employment appeared to have done the worst out of computerisation. They have not been able to find financially sustainable employment. On the other hand opportunities have opened for those outside the traditional structure. Computerisation has expanded the nature of postproduction and in that way allowed entry at more points. Those with specialised computer skills have been able to find 'holes' where were able to successfully exploit technological skill shortages to the advancement of their own careers.

Of course computerisation is on-going and the trends identified are likely to continue. As the systems integrate more fully much of the technical organisation that assistants do now will probably disappear. Picture assistants may become redundant like sound assistants. Picture editors may replace sound editors as more of the sound can be done at the
picture stage. The picture editor may even become redundant with one person – the director – assuming total creative control. The possible implications of this scenario will be examined elsewhere.

In meantime the long-term health of the postproduction industry (and the Australian film industry) does not look promising. The cohort of established editors is ageing and it remains to be seen whether the next generation of editors can withstand diminishing employment opportunities long enough to replace them.

References


Ryan, P., M. Eliot, and G. Appleton (1983) *Women in Australian Film Production*, Sydney: Women's Film Fund of the Australian Film Commission, the Research and Survey Unit, Australian Film and Television School.


**Instructions:**

You may copy and paste content from other documents, or add new content from scratch. In either case, please try to follow the instructions below:

1. Please do not enter in Author details, Title information, Abstract or any other front matter. This information is supplied via your CGPublisher profile – you may change this information by logging into [http://www.cgpublisher.com](http://www.cgpublisher.com) and modifying your profile there.

2. Make sure that you do not remove the section breaks (like the one above '[Body of Paper Begins Here]').
3. Refrain from using 'Heading 1' styles. Instead use 'Heading 2-6' styles, or simply increase the font size of your headings.

4. Refrain from using Word Drawing objects. Instead use images imported from a drawing program. Word Drawing objects will not be rendered in the typeset version.

5. In case of symbols, please only insert symbols using standard fonts (e.g. 'WingDings', 'Arial Unicode MS').

6. Please avoid using certain advanced Word features, such as:
   a. Background or font colours
   b. Drawing objects
   c. Automatic table of contents and table of indexes
   d. Autotext or Fields
   e. Bookmarks
   f. Highlighting, strike-through, embossing and other complex Word text formatting
   g. Forms


References

You may use any referencing method you choose.

The sample entries below show the basic bibliographic style outlined in chapter 15 of the *Chicago Manual of Style*, 14th edition.

Last, First, and First Last. "Article Title." *Journal Title* 3 (May 1996): 47.

———. Use 3-em dash rather than author name(s) when name(s) of author is exactly as in previous entry.
Consecutive entries by the same author are arranged in chronological order (earliest publication first).
Bibliography entries must be in correct alphabetical order.