2001-01-01

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Recommended Citation

Hazelkorn, E. (2001) New Technologies and Changing Work Practices in Irish Broadcasting Revisited. In J. Tunstall (ed) *Media Occupations and Professions:a Reader*. Oxford:Oxford University Press.

Original article

New technologies and changing work practices in Irish broadcasting revisited[1]

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Competition and technological change

Established in 1960, RTE (Radio Telefís Eireann) enjoyed the status of being the sole broadcaster in Ireland despite effectively operating within a broadcasting environment dominated by the UK's BBC and Independent networks. Beginning in the 1980s, however, fundamental changes in the global broadcasting market place including the emergence of new media technologies, the multiplicity of (public and commercial, terrestrial and satellite) broadcasting channels, fragmentation of the audience, and the mogulization of media ownership combined to undermine broadcasting-in-one-country. Given Ireland's peripheral economic status, policy moved quickly to recognise and realise the opportunities: the media/cultural industry could be economically advantageous. Accordingly, the view that government would be better off regulating rather than owning various key utilities, including media and telecommunications, is now ideologically uncontentious. Emphasis has been on liberalization, privatisation and diversification of the broadcasting, cable and telecommunications marketplace, active promotion of Internet and e-commerce technologies, and significant investment in technological infrastructure. A former Minister for Communications argued that it

> was not the function of the state to provide the new broadcasting services...[but] merely to provide the framework and opportunity to allow the public to decide what they wanted to see and hear...[2]

The conjuncture and implications of these developments (economic, political and technological) has not been lost on the public broadcaster, RTE, which had arguably enjoyed a monopoly position. In recent decades, there has been a rapid growth in the number and formats of media providers. Teilifís na Gaeilge (TnaG - now TG4), the Irish language station, began broadcasting in October 1996 followed by TV3, Ireland's first commercial station, in September 1998. The popularity of local, community, special interest and commercial radio stations has further challenged the once-prevailing wisdom that a country with a population as small as Ireland's (3.6m) could only handle a limited number of media. Thus, despite winning the right to be a major provider of digital television in Ireland, declining audience figures and peak-market share, rising costs of programme purchase and production, its own deteriorating financial position, requirements to partially fund the Irish-language TnaG, challenges to its 'right' to the television licence fund and the transmission network, and the 'forced' sale of its

[1] This is an updated version of an article published in the *Irish Communications Review*, 1996. I am grateful for research originally conducted by Eoin Kilfeather, and for RTE's help and encouragement for that research. I am also thankful for comments on this paper from Tom Gormley. All errors and omissions remain mine.
[2] Mr Ray Burke commenting in 1988, quoted in Eamon Hall, *The Electronic Age. Telecommunication in Ireland*. Dublin: Oak Trees Press, 1993, p. 183.

share of the largest cable company (Cablelink), suggest that RTE's circumstances will be significantly different in the new millennium.[3]

A 1985 government-commissioned study[4] assessed the challenges to broadcasting 'in the era of competition', and recommended a reformation of RTE's corporate organization and strategy to prepare it for a changed domestic and global media environment: transformation from producer to publisher, externalization of programme-making through active commissioning and purchasing of independent productions, aka the Channel 4 model, and changes in heretofore restrictive work practices and conditions of employment. The study was strongly critical of RTE for failing to take advantage of new technologies, where such technologies would help reduce staffing levels and costs. Indeed, in comparison with other broadcasters, RTE had shown itself to be a reluctant user of new technology. As a result, a new management strategy was adopted. *Competing in the New Environment - Our Strategy for Survival*[5] was a detailed account of RTE's response to the changed media environment:

> We must produce and transmit more and better programmes at lower cost and with fewer staff. This is the essence of the challenge, which we face and must overcome. If we fail to do so now we risk getting into a spiral of decline, which will become impossible to halt and which would undoubtedly have disastrous consequences for RTE and RTE staff...
>
> Multiskilling must become the norm, and while preserving how [sic] essential production and operational core skills and maintaining programme quality and output standards, staff in general will need to cover a range of duties for which they are competent or for which they can, with limited effort, be trained and scheduled to work as a team.... reasonable flexibility within a team concept has to be the norm.

Remarkably similar in tone to the UK *Broadcasting in the '90s: Competition, Choice and Quality - The Government's Plans for Broadcasting*[6], RTE's strategy emphasized flexibility, efficiency and lower costs. It accepted the need for technological innovation and deployment of new media technologies, although it promised there would be no compulsory redundancies; job reductions would be achieved by 'natural wastage' and early retirement. Hence, restructuring the organisation, introducing new technologies and changing work practices were seen as key mechanisms to help reduce costs, create greater efficiencies, and enhance broadcasting and programming output. In response, the trade unions argued over issues of de- and re-skilling and compensation; there were two industrial disputes in 1991 and 1992.

At the end of the century, the challenges posed by 'the pace of change affecting both the technology and the public policy of broadcasting'[7] required that RTE embraced a strategy of continuous change. To meet these challenges, the Executive Board instigated a 'thorough review of the organisation…not merely anticipating the imminent arrival of keener domestic and international competition…[but] to project itself into the future'.[8] Following an intensive six-month review, the RTE Authority and senior management issued a blueprint for the future, *Review of Structures and Operations*; at the same time, the trade union group within RTE, with management support, published their own review, *Towards a Shared Vision*. The Review identified 'modern technologies, structures and accompanying work practices…[and operating] in a commercially enterprising manner in order to maximise its revenue' as fundamental to any strategy for survival. In so doing, the report acknowledged significant changes in work practices that have already occurred and anticipated further changes to ensure that RTE's 'methods of operation…conform to best practice'.[9]

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[3] For an extensive review of broadcasting in Ireland see E. Hazelkorn (1999) 'Competitive Challenges for Irish Television in the Digital Age,' in *Television on your doorstep. Decentralization experiences in the European Union*, Luton: University of Luton Press, 1999, forthcoming.
[4] Stokes Kennedy Crowley (SKC) *Review of Radio Telefís Eireann. Report to the Minister for Communications*. Dublin: Government Publications,1985.
[5] RTE Competing in the New Environment - Strategy for Survival. Dublin: RTE, 1988. p2, 6.
[6] HMSO, 1988, paras10.2-10.4, p41.
[7] Farrel Corcoran, Chairman RTE Authority, 'Chairman's Statement' in *Annual Report* (RTE, 1998) p3.
[8] Bob Collins, Director-General, 'Director-General's Annual Review' in *Annual Report* (RTE, 1998) p25.
[9] Report of the Project Team, *Review of RTE's Structure and Operations* (RTE, June 1998), p11.

Technology and the broadcasting labour force

From inception, technology and technological change have been central to radio and television. The introduction of FM radio broadcasts, the invention of transistor radio, and the move to colour television increased the consumption of media products in the 1970s. More recently, computerisation and digitalization have swelled the possibility of media platforms, often enabling new audiences to be captured by simply reformulating existing media products onto new technologies. New technologies have also led to significant changes in media production techniques and practices, most notably smaller crews and simplified post-production.[10] These developments have generated economies[11] while substantially raising production standards.[12] Digital technologies have also altered or eliminated many traditional skills required in the media production process by rendering them obsolete or less efficient. They have shifted the balance between large media institutions and small independent production facilities in favour of the latter.

RTE has not been a market leader in the early adoption of new technology, partly due to the financial constraints under which it has operated. Unlike other broadcasters who had embraced new technology with lower operating and cost structures, RTE sought initially to rapidly downsize and casualize. Nevertheless, its decision to implement changes in working modes and practices is demanded by the new broadcasting environment and the problems it poses particularly for broadcasting in and by a small peripheral society. Recognising that these developments will have major implications for those working in RTE, the Review specifically asks employees to directly address the issues of change:

> The RTE that thrives in this new environment will be a different organisation…. Renewing RTE means creating new relationships, new structures and new ways of doing out work…Each of us asks – what does this mean for me? Will RTE be harder, leaner, more focused on the bottom line? Will it still do public service broadcasting? Will there be a job for me? Will I want to work in such an organisation?[13]

The Review team concludes that through this process, RTE is 'capable of achieving a minimum reduction of 270 posts and a minimum total savings of £15m.' Given the strategy of transferring programming to the independent sector, there could be a further reduction of 100 jobs and savings of £2m. Much of the 'savings' will come from greater efficiencies gained through wider use of new technologies.

A study of changes in work practices arising from the impact of new technology was conducted in RTE in the late 1980s. What follows is an updated look at the changes within particular divisions.

<u>Engineering</u>
Major changes have occurred in transmitter technology through microelectronics, and specifically modular circuits. Previously requiring a team of round-the-clock engineers, these transmitters are no longer staffed. The modular design means that if a transmitter develops a fault, the circuitry can be removed and replaced in minutes, and repaired off-site. They are also controlled directly from the studios, an innovation important with respect to increasing managerial control of production. The decline in the demand for engineers to staff the transmitters has, however, been partially offset by newly created demand for engineers to service the growth of IT systems.[14] The fact that engineering skills are 'portable' means that they can be applied to new technologies with little difficulty, a situation that is not repeatable in other areas.

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[10] For example, CCD (charged coupling device), a light sensitive microchip, has enabled video-tape based, portable cameras to replace 16mm film cameras, while initially compact cassette tape and now 'mini-disc' (low-end) and Digital Audio Tape (high end) technology have superseded quarter inch tape recorders as a portable sound recorder.

[11] Video tape is cheaper than film and can be reused. This equipment is technically more sophisticated - cameras now include both lighting and sound - and lightweight so they can be operated by one person.

[12] EFP and ENG have allowed pictures to be immediate and transmittable.

[13] Ibid., Report of the Project Team, p1.

[14]For example, RTE is installing a network based payroll system which will enable producers to input data on appearance fees and salaries without the necessity of submitting paper documents.

Radio

The introduction of digital technology has led to substantial changes in work practices and to the virtual disappearance of traditional skills. The latter involved a journalist's or producer's taped interview being edited by a sound operator under the former's supervision. Self-editing, based upon the digital encoding of sound which can then be viewed as a waveform and spliced 'virtually' on a computer screen, is suitable for those with little or no sound operating background. Because it involves less hand-to-eye co-ordination, it eliminates more traditional and skilled methods of editing as practised by sound operators. While some journalists welcomed greater control over their work, the introduction of self-editing both intensified their work environment and marked a new expectation by management for those who had previously not been required to do any technical work.

As long as there remains a commitment to music programmes, drama, worship broadcasting and live prime time programming, there will be a need for highly skilled sound operators. Nevertheless, the Review argues that there is significant 'over-manning' in the Radio division: too many producers, clerical/administration and technical-operational staff 'for the future', and self-editing and self-operation can make an impact.[15]

Digital Switching

The move from analogue to digital equipment in broadcasting has had major implications for processing information. Traditionally, the central apparatus room (CAR) or switching centre was responsible for routing outside channels and internal audio and video sources[16] to and from the various production and post-production areas. It involved a process similar to an old-fashioned telephone exchange, patching a wire from one socket to another. The entire process has now been replaced by integrated circuits and touch screen VDUs, controllable from anywhere in the studio. This technology has also transformed that part of television studio operations, which mixes sound and vision for final, live broadcast, cues and announces programmes, and sends out the broadcast signal. Both tasks have been automated and staff re-deployed.[17]

In radio, the combination of self-editing and digital switching enabled the capability to 'go directly to the transmitter network', thereby making it possible for a single presenter to control programme output on radio, without necessitating a sound operator to be present. These self-operated studios are especially cost-effective for RTE's all-music channels, 2 FM and Lyric FM, which have a minimum of 'talk radio content'. It does, however, again raise expectations about the skills required by previously technically unskilled presenters. The Review acknowledges that there is still 'significant scope for efficiencies in the presentation transmission area arising from further introduction of new technology and its integration with Master Control'.[18]

Graphic design

Traditionally, artistic skills were important for the production of titles and graphics for television. The practice was to produce artwork on paper and then film it with a camera. New technology has revolutionised this process, replacing some of the skills with conceptual dexterity. The creative tasks and editorial decisions have been merged with consequences for both technical and creative workers. Contrary to expectations, increased quality of work and speed of delivery have led to an increased demand by producers and consumers for graphics, with the result that staff have increased in this section. In turn, this has accelerated the introduction of digital technology, forcing graphic designers to integrate their skills with other technical aspects of production, transmitting their work from computer to video tape directly without involving a video tape operator. New technology of video-compositing will have an equally great impact on design by integrating it directly with digital video. Together with digital non-linear video editing, the process of video post-production will be further revolutionised, combining the skills of video editor, graphic designer and sound mixer. This will again raise expectations about the skills required in video post-production.

[15] Ibid., Report of the Project Team, p89. 105.
[16] For example: VTRs (video tape recorders), studio camera, OB (outside broadcast) sound and vision, etc.
[17] This is a rare case in RTE of automation replacing skills and jobs directly. Unlike manufacturing industry, these technicians have become involved in more creative aspects of media production through redeployment. However, it does place greater control of the production process in the hands of management.
[18] Ibid., Report of the Project Team, p62.

Lighting

The introduction of new saturated lighting rigs[19], which are quickly rigged and de-rigged, has altered the skills required for lighting technician and lighting electrician. While there has been an increase in the number of studios under use at any one time, saturated lighting has contributed to de-skilling of lighting in broadcasting. The operation can now be substantially carried out at the flick of a switch. Consequently, the number of studio electricians has fallen.

However, a new post of sound and lighting operator (SAL) for 'external' work, incorporating lighting electricians together with sound recordists, has been created. It could be argued that this has resulted in de-skilling both tasks, as the final operation is not as skilled as that of the previous three-person crews. In so far as these two-person crews are used primarily for news and current affairs, which does not require as high sound and lighting quality as drama or music productions, the argument could be made that only the low skill element has been displaced. Thus, it could be said that the new multi-skilled SAL is a more rewarding job.

ENG/EFP equipment

RTE has a strong commitment to develop the digital newsroom, and increase its use of electronic newsgathering (ENG), electronic film production (EFP) and satellite news gathering. The introduction of such equipment has and will continue to revolutionise newsgathering and news production, and will certainly impact significantly on both editorial and technical staff within the newsroom. The user-friendliness, lightweight and technical capability[20] of video over film processing has virtually led to the replacement of the latter by the former. The fact that these small, lightweight video cameras also include the sound and lighting capability means that work practices appropriate for cinefilm crews are no longer required. Multi-skilling is a sine-qua-non of the work, with many journalists required to self-edit. While there was some disagreement over whether sound quality has suffered, video's efficiency is seen as a welcome trade-off.[21]

During the 1980s, Sky and NBC were among the first to use one-person camera crews. While interviewees in RTE during the mid-1990s suggested that they would not be introducing one-person crews, as the reduction was not always matched by efficiencies, today there are a considerable number of one-person crews operating, especially in newsgathering. Indeed, the Review suggests that the use of one-person crews should be extended to other areas, 'e.g. current affairs' and that news crews should 'begin to use laptop field editors, as they become available'.[22]

An industrial relations dispute began in 1992 when management sought to introduce two-person crewing for news and current affairs programmes, thus displacing the need for both a lighting electrician and a sound operator. As suggested above, RTE had long been considered heavily overstaffed compared to best practice.

Telecine VTR (Video Tape Recording)

The move to ENG and video has led to a change in maintenance skills; while the equipment is more reliable than cinecameras, the increased number of VTRs and cameras, and RTE's commitment to 'in-house' repairs where possible, has led to increased numbers employed. In contrast, the skills required for transferring film to videotape for broadcast has been overtaken by ENG and EFP technology, thus eliminating the need for telecine transfer. According to the Review, 'ongoing developments in technology…with the imminent replacement of

[19] This gives a permanently rigged set of diffuse, high output, lights which provides broad, even illumination of a studio requiring only key lights and backdrops to be lit. This has been made possible by halogen lighting technology, which allows for higher lighting output than obtainable from standard incandescent lights of a similar power rating.

[20] CCD cameras can be used in much lower lighting conditions than was possible with film cameras. They also allow material shot remotely to be sent by microwave link from regional studios, where previously an outside broadcast (OB) unit would have been required. See footnote 10 above.

[21] A similar trade-off for mobility and flexibility has been accepted by the use of cellular telephones to replace skilled OB technicians.

[22] Ibid., Report of the Project Team, p76-77.

videotape formats by compact disc and networked file server technology' will continue to see staff reductions in this area.[23]

[23] Ibid., Report of the Project Team, p80.

Table 1
Summary of Impact of Technological Change on Selected Departments in RTE, 1988-1999

- **Engineering**
◊ changes in transmitter technology and specifically modular circuits through microelectronics.
◊ transmitters controlled now directly from studios.
◊ decline in the demand for engineers partially offset demand to service the growth of IT systems - a situation not repeatable in other areas.
- **Radio**
◊ digital technology has led to self-editing, a technique suitable for people with little or no sound operating background.
- **Digital switching**
◊ move from analogue to digital equipment means integrated circuits and touch screen VDUs are controllable from anywhere in the studio.
◊ capability to 'go directly to the transmitter network', thereby making it possible for a single presenter to control programme output on radio, without necessitating a sound operator to be present.
◊ transformation of that part of television studio operations which mixes sound and vision for final live broadcast, cues and announces programmes, and sends out the broadcast signal.
◊ significant scope for efficiencies arising from further introduction of new technology and its integration with Master Control.
◊ **Graphic design**
◊ revolutionized practice of producing artwork on paper and then filming it with a camera.
◊ integration of skills with other technical aspects of production, transmitting work from computer to videotape directly without involving a video tape operator.
◊ increased quality of work and speed of delivery has increased the demand with the result that staff increased in this section.
- **Lighting**
◊ new saturated lighting rigs, which are quickly rigged and derigged, means that the operation can substantially be carried out at the flick of a switch.
- **ENG/EFP equipment**
◊ user-friendliness, lightweight and technical capability of video over film processing has virtually led to its replacement.
◊ extend use of one-person crews to other areas, 'e.g. current affairs'
◊ news crews should 'begin to use laptop field editors, as they become available'
- **Telecine VTR**
◊ equipment is more reliable than cinecameras; increased number of VTRs and cameras.
◊ commitment to 'in-house' repairs has led to increased numbers.
◊ imminent replacement of videotape formats by compact disc and networked file server technology

Labour restructuring

Labour flexibility is a key advantage of new media technologies: slimmed-down production teams and the contracting-in of cheaper programming and/or skills from independent production and facilities houses. Single-operator crews are fast becoming the industry norm. With the introduction of self-editing, there is greater convergence between the technical and the production sides of broadcasting, eliminating traditional boundaries; for example, technicians are retrained as journalists and journalists re-skilled to edit their own interviews.

> Camera crews are expected to be news editors as well at no extra charge. We could be out all day and then be asked to cut for three or four hours. In the end, they're asking one operator to do everything including the line feed.[24]

[24] Simon Croft, 'Good news or bad news', *Broadcast*, 28 September, 1990.

During 1997, RTE, following trends elsewhere, introduced the position of multi-skilled 'technical operator'. Another change has been the decline in full-time employment, with a move towards casualisation of employment through a shift towards short-term contracts lasting either for several months or a series' duration.

Unlike its counterparts in the UK and the USA, the prevailing political and public climate in Ireland has proven itself intolerant of large-scale redundancies especially by state institutions. Thus, RTE has used a combination of early retirement, redeployment, retraining and alterations in staffing structures to effect the necessary cost efficiencies required. In this way, the full extent of the impact of new technology is masked by RTE's social responsibility. Thus far, the pace of change has been able to absorb the level of redeployment and retraining, albeit the unions have expressed concern that the speed of change might begin to outpace the organisational ability of the corporation to absorb displaced labour. In such circumstances, the major union set itself against the

> allocation of members to a 'Redeployment Pool' where it is made clear to them that they are not seen as making a valuable contribution to the organisation.[25]

The two industrial disputes, 1991 and 1992, began when RTE sought to introduce two person camera crews without trade union approval for the level of compensation to be awarded to members displaced by technology.[26] The unions claimed that they did not seek to overturn the decision to use new technology but rather sought compensation for those members affected by its introduction. In this regard, the dispute illustrates the inability of the unions to influence the 'product strategy' of RTE as regards the quality and nature of programmes produced.[27] Previous efforts to influence the nature and extent of technological change had also been thwarted[28]. Explanations for this failure rest to some extent on union unwillingness to become involved in retraining, preferring instead to negotiate increased wages. Worrying from the union's view point must be the fact that RTE views the introduction and use of technology as an essential means to achieve greater efficiencies and competitiveness, and accordingly intends to work with those who are 'prepared to change and take on new work'.[29]

Another aspect of labour restructuring has been changes in employment categories. In the early 1980s, the government introduced an embargo on full-time employment in the public sector as an on-going policy of reducing current expenditure. Despite RTE's relative financial autonomy, it is still over-determined by these pressures.[30] To meet the recommendations of the 1985 consultancy study of RTE in favour of retrenchment in staff numbers, RTE now seeks to make new appointments and promotions by contract only.[31] This trend towards casualization of the labour force is illustrated by the figures (see Table 2): in

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[25] While the term 'redeployment pool' would still raise hackles, the notion that people should be retrained for other work is widely accepted. See SIPTU (1992) *Submission to RTE Special Adjudication Committee by SIPTU regarding self-editing and its effects on sound operators* Unpublished.

[26] RTE, who had sought the opinion of the Labour Court, believed that the introduction of new technology was covered by the *Broadcasting in the 1980s* agreement with the major trade union, the ITGWU, in 1982. It had allowed for the introduction of new technology in return for pay increases of approximately 25 per cent for many members.

[27] Eoin Kilfeather, *Technology and Labour Restructuring in RTE.* BSc Communications Thesis, Dublin Institute of Technology, 1994.

[28] The trade unions had attempted to influence the manner and pace in which two person crews using high power lights would be introduced. While they viewed this change as 'inevitable', they sought to subject the use of such lights to electrical and operational safety checks by the state's scientific and technical institution, EOLAS. A dispute ultimately arose over financial compensation.

[29] Ibid., Report of the Project Team, p105.

[30] A proposed early-retirement package was considered 'too generous' by the government, and RTE was forced to rethink its strategy.

[31] RTE employs people in a number of 'categories':
Permanent and Pensionable: this is the most secure of the contracts and those employed these terms have been assured that they will not be subject to involuntary redundancy;

1988, 2146 people were employed, 99 of whom were in non-permanent employment; in contrast, by 1998, 761 people held non-permanent employment. This represents an increase of the total employed in non-permanent positions from 4.6 per cent to 36.2 per cent. Over the same period, 212 people took early retirement. The figures show that while permanent and pensionable jobs have been lost, RTE has, to some degree, been replacing them with contract staff.

Table 2
RTE Labour Force, 1988 and 1998

Year	Total Employed	Permanent	Non-Permanent	% Non-Permanent
1988	2146	1867	99	4.6
1994	1973	1643	330	16.7
1998	2100	1399	761	36.2

Source: RTE[32]

A closer examination illustrates that the pattern of casualisation of employment is not universal. There is a marked contrast between employment patterns in the technical and production divisions albeit all areas showed a fall in the numbers employed. Technical areas, such as radio and television facilities, show a steady contraction in permanent and pensionable employment, with no comparable increase in non-permanent employment. For example, total engineering staff fell from 379 in 1988 to 199 employed in 1994; of which non-permanent contract staff constituted 26.1 per cent in 1988 but only 3 per cent employed 1994.[33] Thus, no new employment has been generated in this area. In contrast, permanent and pensionable staff in production areas, most notably in television programming, radio and news, are being re- or dis-placed by non-permanent contract staff; the latter has increased from 10% to 19.9%, from 3.8% to 15.8%, and from 2% to 28.2%, respectively. (See Table 3)

The relationship between technology and labour restructuring within RTE is complex and often contradictory. While competitive and political factors have stressed technological innovation, other factors have slowed its implementation and effects. Both deskilling and reskilling are occurring, sometimes in tandem. Their impact has been felt unevenly by the labour force; for example, while all areas have experienced a decline in employment, new employment is less likely in technical areas most affected directly by new technology for obvious reasons. This suggests that if and when the embargo on permanent and pensionable employment is lifted, new recruitment is likely in non-technological areas. This represents a shift in the balance of skill/power relations between technology ('blue collar') and production ('white collar') jobs. This rebalancing carries significant implications for the rate of 'productivity' as new media technology opens up the possibility for a shift from 'variable' (wages) to 'fixed' (plant) capital by reducing the production process and the cost of production. Effectively, technological developments have enabled many more people to make programmes more easily. People with little or no technical skill can with little or no additional training undertake traditionally quite skilful operations, a factor illustrated by the experience of self-editing. Additionally, the latter workers carry none

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Continuous Employment: this refers to fixed term contracts which carry the same pension and other rights as permanent and pensionable contracts; they are usually given to people who are promoted from a permanent and pensionable post;
Employment Contract: these are fixed term contracts with portable pension rights and have been favoured by RTE for recent appointments;
Temporary Contract: these are contracts for three months to 3 years; they are frequently given for the duration of a programme series and then allowed to lapse.

[32] The definition of an employee in RTE can sometimes be a thorny issue. Are actors appearing on RTE soap operas considered employees? Some people are also paid through the personnel department while others are paid through the freelance budgets under the control of individual programme departments. This is among a range of issues currently under discussion by a joint union-management team. The various columns in Table 2 do not add up, however these figures were sourced from RTE.

[33] This figure includes both employment contracts and temporary contracts.

of the benefits of premium (e.g. unsociable or overtime hours) payments associated with the formally well organised technical staff.

Table 3
Employment categories in selected divisions in RTE, 1988 and 1994

		Total staff	Permanent & pensionable	continuous employment	employment contract	Temporary Contract	non-permanent contract %
Radio Facilities	1994	58	57	1	0	0	0
	1988	91	89	1	1		1.1
Engineering	1994	199	190	2	6	0	3
	1988	379	359	11	99		26.1
TV Programmes	1994	351	239	42	60	10	19.9
	1988	399	302	57	40		10
Radio 1	1994	177	127	22	27	1	15.8
	1988	212	177	27	8		3.8
News	1994	142	102	0	39	1	28.2
	1988	137	118	16	3		2.2
RTE Total	1994	1973	1508	135	292	38	16.7
	1988	2146	1867	180	99		4.6

Source: RTE
Note: Non-permanent contracts includes those employed on both employment or temporary contracts.

Another factor is gender. Women constitute only 31.8 per cent of full time but 60 per cent of part time staff .[34] The technical areas of media production (lighting, camera, sound, etc.) have traditionally been male bastions but these areas are most vulnerable to incursions of new technology. In contrast, women are likely to be employed on contract as production support staff (e.g. administration, researcher, production assistants, secretarial, receptionist, programme director, etc.)[35]. Employment patterns within RTE, like its international counterparts, continue to show a strongly segregated skill and grading structure: men dominate the technical areas while women are over-represented in administrative activities. While RTE is an 'equal opportunity employer', distinctions in recruitment and promotion continue to be highlighted. Although skill sounds like something that can be measured objectively, skills have increasingly become a

[34] See *Equal Opportunities for All* Dublin: RTE, 1991, and *Equality Report, 1998*, Dublin: RTE, 1998.
[35] An exception is vision mixing.

'masculine prerogative'.[36] Indeed, the demarcation between 'women's jobs' and 'men's jobs' is as strongly marked as ever throughout the industry.[37] (See Table 4) One explanation for the significant recruitment of women into some production grades, categorised as 'pink collar' or 'velvet' ghetto, is the declining status of the specific medium (e.g. radio vis-à-vis television, broadcasting vis-à-vis film).[38]

Table 4
Distribution of Male and Female Employees in Independent Film & Television Production Companies and Facilities Houses, 1995

Group	Permanent					Contract		
	Male Number	%	Female Number	%	Total	Male Number	Female Number	Total
Production Management	82	77	24	23	106	9	5	14
Production Support	18	16	97	84	115	7	9	16
Operational	122	83	25	17	147	26	4	30
TOTAL	222	60	146	40	368	42	18	60

Source: Statcom Report/FAS, *Training Needs to 2000* [39]

For understandable reasons, journalists and producer/directors have more readily embraced multi-skilling than their technical counter-parts; the former see it as a means of enhancing their control while the latter as one of losing control over the finished product. The evidence further suggests that women are more likely to be the beneficiaries or victims (depending on one's analysis) of casualized employment in the sector. Given the media's predilection to image, gender factors such as 'technological know-how' and 'personality-looks' may play a key role in explaining new forms of sex-segregation, e.g. behind vs. in front of camera, directing vs. producing[40]. Technology may be capable of bridging the gap between conception and execution in the 'artistic' production process but the rewards are not necessarily evenly distributed.

Implications for broadcasting (in Ireland)

[36] Erik Arnold and Wendy Faulkner, 'Smothered by invention: the masculinity of technology' in Faulkner and Arnold, eds., *Smothered by Invention* London: Pluto, 1985. p46.
[37] For example, the ability to hold a camera is often used against women on the basis of the person's height or camera's weight.
[38] See Ellen Hazelkorn, 'Gender Identity and the Relations of Irish Media Technology' in *Emerging Voices? Irish Women Entering the New Millennium conference* University of Limerick Press, forthcoming, Hazelkorn, E. 'Gendered relations of media production? a case study of Irish broadcasting and film' in *Medienjournal* Spring, 1995, and Liesbet Zoonan, *Feminist Media Studies* London: Sage, 1994. p50.
[39] Dublin: FAS, 1995 p16.
[40] Women usually appear in front of and men behind, operating the camera. Is this relationship derivative of gendered technology? Michele Martin, 'On gendered knowledge in communication: women in the film industry' in *Irish Communications Review*, 5*:*1995, argues that 'women [are] generally found...before the camera...because, in bourgeois society, women are often identified as objects and men as subjects with technical skills'.

The internal changes in RTE are taking place against a backdrop of and in response to a revolution in broadcasting. The establishment in 1982 of Channel Four in the UK proffered a new model of broadcasting, formally separating production from broadcasting, thereby transforming the 'integrated factory production into the publisher model' and creating 'a new industrial model'.[41] This process was seen as both a means of reducing public-broadcaster costs and stimulating the development of an independent production sector, from which both the BBC and ITV were to commission 25 per cent of programming. In Ireland, the shift to the independent sector was initially quite modest; TnaG would operate as a publisher-broadcaster, with most of its programmes commissioned from independent producers or bought in and dubbed (mainly from languages other than English, and particularly from lesser-used languages). The Broadcasting Authority (Amendment) Act 1993 marked a more determined effort to 'jump-start' an independent film and broadcasting sector. RTE was required to make available IR£5.0 million in 1994 rising to twenty per cent of television programme expenditure or IR£12.5 million (whichever is greater) by 1999 in each financial year for programmes commissioned from the independent sector.[42] The Independent Production Unit (IPU) was established to liaise and commission such programming. This was essentially a strategy of managed privatisation, based on fiscal and legislative restrictions on the state sector and incentives to the private sector with the intention of jump-starting an independent media production sector and marketing the country as an English-language beach-head producing content for the rapidly expanding global media/cultural industries.

While that sector has received significant public policy attention in recent years, it remains small: 84 per cent of production and facilities houses employ ten or less, and 69 per cent five or less people.[43] Many were start-ups by former RTE employees who opted for early retirement during the initial mid-1980s de-staffing. While operating on a financial precipice, they survive through a combination of flexible work practices and multi-skilling[44], a low-cost base with few overheads, contracting in both labour skills and equipment as required. It is their ability to significantly undercut the cost of programme production by the state broadcaster,[45] because of the latter's rigid structure of secure employment contracts and conditions of employment, that signals the most revolutionary challenge to broadcasting and to its labour force.[46]

Essentially, the independent sector is a freelance sector - more aptly referred to as a 'system of sub-contracted labour'[47] - although the precarious nature of much of the employment precludes an accurate picture. Between 1991 and 1994, permanent employment increased by 18 per cent but freelance employment grew by 58 per cent. Of the 3,500 people employed in the entire audio-visual industry in Ireland during those years, including those employed by RTE, almost half or 1500 are freelance.[48] While the trade unions still control access to employment

[41] Jeremy Tunstall *Television Producers* London: Routledge, 1993. p10.
[42] The Minister now proposes to fix the annual sum payable by RTE to the independent sector at £16m + with index linking.
[43] Ibid. Statcom/FAS, p16.
[44] A survey of independent film and television production and facilities houses in Ireland found that 'some crossover/overlap in job functions is a feature in over two-thirds of companies surveyed (68%), and that three-quarters of these companies have a "considerable" degree of job crossover/overlap. Further analysis indicates that the crossover is most frequently within jobs in the television production area, and between production and production support jobs. For example, a producer may also be responsible for direction, or it can be the case that research, production co-ordination and floor management may be combined' (Statcom/FAS, 1995, 17).
[45] In 1994, RTE paid the independent sector approximately £22,000 per hour programming; this figure is the total value of commissions £5,527,902 divided by 258 total hours commissioned. Economies of scale with a series affect these figures. These costs are also conditional on the type of programme produced; game and talk shows are particularly cheap to produce. Difficulties in comparisons with in-house costs are attributable to the fact that many of the cost factors involved can be treated as internal 'public goods' and their pricing is entirely arbitrary. In the private sector, market prices always operate so that a price will always be arrived at.
[46] See, e.g. 'Independent sector is blamed for latest wave of BBC job cuts', *Broadcast*, 24 September, 1993.
[47] M. Chanan 'Labour power and aesthetic labour in film and television in Britain', *Media, Culture and Society* 2:127 (1980) p127.
[48] Coopers and Lybrand *The Employment and Economic Significance of the Cultural Industries in Ireland* Dublin: Temple Bar Properties, 1994. sect. 6, pp 6, 10. Current data on employment in film production can be found in *The Economic Impact of Film Production in Ireland, 1997* Dublin: IBEC/Audiovisual Federation, 1999.

in the sector through a closed-shop policy, they are in no position to present any serious challenge. More flexible work practices, the often intimate employment relations, where recruitment and promotion is often on a basis of personal contact and the 'old-boys network', and the precarious and spasmodic nature of media production work facilitates against this. This is well illustrated by the 1992 strike in RTE; ostensibly over the size of camera-crew, some union organisers did proclaim it as a strike in defence of trade unions against a 'management offensive'. Despite the unions' 'success' in persuading the majority of their members to stay outside the gate, new technology had simplified broadcasting to the extent that a few managers[49] could sustain the national radio and television station. New media technologies, which have resulted in the reduction in size of camera crews, have made it more difficult for unions to 'produce technical arguments to support their negotiating position'.[50] The open acknowledgement by union strategists that the strike was lost illustrates the depth of decline from its legendary bargaining strength of the 1970s. While the Irish situation is a long way off from the UK, where the independent sector is fast approaching being the largest production base in the country, the fact that TV3 operates as a 'publisher', with an annual budget of £6m (£10-12m initial capital costs) and a staff of 100, suggests clear parallels.

Many of the changes described above correspond to normal economic developments whereby technology is introduced in order to reduce labour costs and secure competitive advantage and audience/market share. RTE is just one of many broadcasters implementing change[51]:
1) a continuing decline in full-time employment[52];
2) a move towards casualisation of employment through a shift towards short term contracts, lasting either for several months or a series' duration;
3) erosion of the demarcation between the technical and production areas both within broadcasting and between broadcasting and film, and a rebalancing in the power relationships between the two;
4) slimmed-down production teams;
5) contracting-in of programming and/or skills from independent production and facilities houses;
6) routinization (or redefinition) of many previously skilled tasks.

There is little disputing the significance of these changes. Economic, ideological/political and technological developments, arguably in that order, have combined to change the environment in which broadcasting has and will operate. Several concluding comments can be made. First, all broadcasters face the struggle for economic survival; competition for audience/market share is, because of technology, truly global. Public broadcasters, especially small ones, operate in an increasingly more aggressive climate in which even public support can no longer be taken for granted; broadcasting-in-one-country is no longer tenable. This certainly has implications for 'national culture' but also for sheer survival. Second, new technologies have had a major transformative impact on the nature of work, work practices and the product. It has changed forever the way programmes are made and distributed. Strict demarcations between skills, which traditionally required an 'apprenticeship', no longer exist. Employees must be multi-skilled and flexible. The structure of the firm has also changed.[53] Third, access to the technology is now widely available at decreasing cost. Web publishing will place broadcasting into more and more hands, theoretically diminishing the power of the majors to control the equipment. This has opened the door to the emergence of an independent sector, cheapening the cost of the product that they produce. In turn, the independents, who often operate a 'kitchen-table' operation, continually force downs the cost of production within traditional broadcasting corporations. Fourth, while ideological dislike for state broadcasting systems may have been an initial rationale for some policy initiatives, there are now sound

[49] Over 10 per cent of total staff are designated as management.
[50] Colin Sparks, 'The impact of technological and political change on the labour force in British television', *Screen*(n.d.) p26.
[51] Ellen Hazelkorn, 'Labour and Training Issues in Ireland's Developing Film and TV Sector', *Film Ireland*, February, 1997. See also Alan McKinlay and Brian Quinn, 'Management, technology and work in commercial broadcasting, c.1979-98' in *New Technology, Work and Employment*, 14:1 (March 1999) p2-17.
[52] RTE's *Strategy for Survival* sought to bring about a reduction of 10 per cent via voluntary redundancy, a figure that has been revised upwards. Employment in RTE reached a height in 1984, when 2376 people were employed.
[53] For a full discussion of the issues, see E. Hazelkorn (July 1997) 'Digital technologies, work practices and cultural production in Ireland', *Economic and Social Review*.

economic reasons to support the shift from producer to publisher. Not just in Ireland has the sponsorship of an independent commercial production sector become both 'the nuclei of cultural industries'[54] and the undertaker of the large public broadcasters. Recent experiences of change in the Irish media industry are representative of change experienced elsewhere. Technology over-determined by ideological and economic imperatives has engineered a revolution in the social and economic relations of production, involving deconcentration, decentralization and 'democratization' of the audio-visual industry.

[54] Steve McIntyre, 'Art and Industry. Regional film and video policy in the UK' in A. Moran (ed.), *Film Policy. International, National and Regional Perspectives*, London: Routledge, 1996. p. 225.