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Experiments in early US television: windows of opportunities for female technical workers in the 1940s

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ABSTRACT

This article examines the case of the Women's Auxiliary Television Technical Staff (WATTS) of the Chicago television station WBKB: an all-female technical and production crew that operated from 1942 to 1947. In tracing the employment and work of the WATTS, this article examines, firstly, the conditions that enabled women to engage in television technical and production work. Secondly, this article considers the conditions that resulted in decline in the numbers of women working at the station in the post-war period, which were related to men's return to work after the war, the shift in television's evolution from experimental to professional and commercial, and, finally, to the gendered culture of work that emerged when men engaged in production work with women. Through an analysis of the trade and popular press discourses that first celebrated women's television work and later dismissed it, women's place in the earliest years of television is foregrounded.

KEYWORDS

Experimental television;
WBKB; women; production;
WATTS

Introduction

In May 1947, the Women's Bureau of the United States Department of Labor published a report entitled *Women in Radio* which offered a survey of women's achievements in undertaking work in radio broadcasting. It also addressed the emerging television industry. Although the report was hopeful that television would offer more work opportunities for women, the report also suggested that such roles would likely be restricted to areas such as make up and costume.¹ The report stated that television technical work was not for women: 'tacit agreement and even a few contract agreements provide that certain technical jobs in television shall definitely exclude women'.² Accordingly, television work, although broadly open to women, remained clearly gender segregated. Yet, women had already been engaging in television technical work in the years leading up to the report.

This article examines trade as well as the popular press for traces of the gendering of technical work in early US television. I discuss the case of the Women's Auxiliary Television Technical Staff (hereafter WATTS) of the Chicago television station W9XBK (later renamed and hereafter referred to as WBKB). The WATTS were an all-female technical and production crew that operated from 1942 to 1947. The title WATTS was created by the station director

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Bill Eddy and reflected the many ‘women’s auxiliary’ services that operated during the war years. In tracing the employment and work of the WATTS, I examine, firstly, the conditions that enabled women to engage in television technical and production work. Secondly, I consider the factors that contributed to the decline in the numbers of women working at the station in the post-war period. These factors had less to do with the women’s inability or lack of interest in such work and were more related to wider social events, such as men’s return to work after the war, the shift in television’s evolution from experimental to professional and commercial, and, finally, to the gendered culture of work that emerged when men engaged in production work with women. Through an in-depth analysis of the trade and popular press literature that first celebrated women’s television work and later neglected and dismissed it, I foreground women’s place in the earliest years of television.

There is, however, a scarcity of records on the individual WATTS and their work at WBKB. Many of these WATTS did not go on to have prolific television careers after the war, or worked in roles that have not received the attention of more established roles in the television industry, such as those of director or producer. Therefore, the contributions of WATTS are not easily identifiable—a problem typical of women’s work which tended to be undervalued, feminised, and which eventually disappeared from dominant institutional histories.³ Furthermore, there is no WBKB archive of information on the women. The Museum of Broadcast Communications contains some materials on individual women, along with recordings of early television programmes. Searches of trade press archives also proved useful to identify the type of work undertaken by the women and, more importantly, to better understand their promotional and publicity work, as well as the discourses about women’s technical work that first emerged during the time of their employment in 1942. In addition, I reconstruct the work of the WATTS by drawing from magazines and periodicals such as *Broadcasting*, *Variety*, and *Billboard* since these magazines often review the programmes made by WATTS and identify the WATTS personnel and their roles in particular.

These same sources also document the gendering of WATTS’s work, particularly in the immediate post-war years when the utility of WATTS was perhaps in question. WBKB promotional photographs and pamphlets also give meaning to the women’s work and evidence both the promotional role WATTS played for WBKB during the war as well as the technical work they undertook. Other relevant archival sources reveal some of the institutional and production practices at WBKB. For instance, weekly programme memos reveal discord among the programme production teams, and the gendered segregation of roles, while records on staffing changes and employment suggest the exodus of women in post-war years. Finally, oral histories and press interviews carried out with the WATTS reflect the promotional discourses in their celebratory articulation of and nostalgia towards their time at WBKB. This echoes Penny Summerfield’s discussion of how oral history interviewees produce narratives that negotiate between both personal memory and public or popular discourses of the historical moment.⁴ Collectively, the aforementioned materials fill in some of the gaps concerning women’s wartime work at WBKB. However, the gaps themselves are also part of the discourse about their work and speak volumes about the shifting interest in and encouragement of women into television work.

In this article, using a case study approach to investigate the women of WATTS at WBKB, I consider the factors that enabled a fairly large group of women to engage in production work during the first experimental years of television. Admittedly, case

studies are frequently considered to be too specific to be capable of revealing any broader societal or institutional patterns. However, as Vicki Mayer argued, studies of productions can suggest 'how specific production sites, actors, or activities tell us larger lessons about workers, their practices, and the role of their labors (sic) in relation to politics, economics, and culture'.⁵ Accordingly, in the present article, the specific focus on WATTS is used to draw attention to women's work in the early television years and to explore the formation and perpetuation of gendering of women's roles in television. Following this, I consider the implications of this gendering on narratives of women in television. Overall, feminist television histories provide valuable detail on the role of women as producers and audiences of the post-war television, writing women into historical narratives that often keep women at the margins, if not outside.⁶ Yet, as illustrated by the case of WATTS I analyse, there is scope to extend these histories earlier. Indeed, as I argue in this article, the gendering of television technology and work that began in television's formative years continued into its post-war institutional years.

Literature review

Despite the richness of previous research on women in US television from the Golden Era of television onwards, there are fewer accounts of women in television during the experimental years of 1930s and early 1940s when television stations worked under experimental licenses and the television industry had not yet fully transitioned to a commercially-funded system. Wider media and broadcasting literature, however, provides some context for women's media work during these years. Among these accounts are two volumes by Cary O'Dell on the numerous women working in US broadcasting when it was institutionalised from the late 1940s onwards. Similarly, Donna Halper's *Invisible Stars: A Social History of Women in US Broadcasting* reveals that there were more women working in early radio and 1950s television than is typically assumed.⁷ However, Michele Hilmes identifies the ways in which an initial period of openness was followed by increasing institutionalisation and professionalisation of radio that marginalised the careers of women, such that they were eventually relegated to the 'daytime ghetto' of women's programmes and genres.⁸

Other relevant studies of media more generally highlight a similar oscillation between opportunity and marginalisation where women would periodically find lots of work opportunities but also face exclusion elsewhere. Scholars such as Shelley Stamp and Jane Gaines, for example, have traced the work done by women in the early US film industry as well as the near disappearance of these same women from the historical record.⁹ Both Stamp and Gaines stress the urgency for feminist methodologies that locate women's film histories but also acknowledge the challenges in 'looking past the screen' for women's role in cinema history. For Erin Hill women who engaged in 'ordinary' clerical or service roles in media production were particularly vulnerable to being forgotten.¹⁰ A similar claim is made by Catherine Martin that the women who worked in NBC's Information Department were overlooked because they undertook lower-level administrative work, even though these women were decision-makers and key contributors to the organisation.¹¹ This absence of historical focus on women's work in broadcasting and film, in stark contrast to well-documented institutional and 'great man' histories, also extends to early television.

In piecing together the history of women in experimental television, it is useful to turn to the scholarship on women in British experimental BBC television. This scholarship offers a more intensive focus on the institutional as well as social and political forces that intersected with women's work at the BBC. Available histories of women at the BBC explore the relationship between women's social position, the changing patterns of women's work during the war, and the institutional attitude towards and commitment to women's broadcasting work. Scholars such as Kate Murphy, Emma Sandon, Kate Terkanian, and Jeannine Baker have traced some of the causes and outcomes of patterns of inclusion and exclusion in women's employment at the BBC, particularly during the war and post-war years. Although the British experience is not identical to the US, these scholars offer a useful route to discuss women in wartime and post-war US television. Murphy, for example, discusses how, in its first decade, the BBC branded itself as an organisation committed to equal opportunities, only to follow employment convention of the day by introducing a marriage bar in 1932.¹² Murphy argues that this change in attitude stemmed partially from social attitudes towards married women working during the time when others needed work more. Furthermore, as highlighted by Terkanian in her article for this issue as well as her dissertation, women found more opportunities for employment at the BBC during the war years. Women were trained in technical roles, took on administrative work, and played more prominent roles in the organisation.¹³ However, as argued by Terkanian, the post-war years saw a reduction in women's employment and progression more generally, although the start provided by wartime labour shortages did allow some women to maintain careers at the BBC in the post-war years.

My own research on WBKB's WATTS suggests similar patterns where the inter-relationship between societal expectations of the 'return to the home', returning male servicemen taking up professional roles, and institutional indifference to the post-war recruitment of women collectively worked to stagnate women's opportunities.¹⁴ In this respect, Baker's account of women's transnational careers helps explain how careers were moulded, but not defined, by early training and employment at key organisations.¹⁵ Similarly to the formative role that the BBC played in Australian women's broadcasting careers, WBKB provided a launching point—if not a home—for many of its wartime female technical trainees. Yet, Sandon's research on female engineers employed during and after the war reveals a paradoxical situation where women were first invited to apply and undertake training and work in technical roles and then subject to discrimination and ill-treatment on the basis of their gender.¹⁶ Sandon's research on oral histories of women's experiences in the post-war BBC television's Engineering Department suggests that the BBC's policy and culture were at times at odds with each other. Sandon's findings help me to make sense of the contradictory and shifting attitudes to WBKB's female technical staff. Despite broader institutional differences between commercial and competitive US television and the public service models of other early national television systems like the BBC, there are, ultimately, shared experiences of war that necessitated women's participation in the labour market. Thus, transnational studies of women's work in television reveal some common routes and outcomes.

As Terkanian's contribution to this issue has shown in the case of the BBC's recruitment of female wartime engineers, the WATTS of WBKB were, for example, likewise employed to maintain the television station service when male staff joined the war

effort. In 1942, WBKB's Bill Eddy had set up a radar training facility for the United States Navy to which he redeployed his male staff. This created a labour shortage in the television station which was filled by the WATTS. Therefore, this wartime context was intrinsically interrelated with the women's work at WBKB. As wartime recruits, the WATTS reflected the 'Rosie the Riveter' image that saw women's work in typically masculine roles as both crucial and temporary. Documenting variations in women's experiences of wartime work, Karen Anderson finds that, although there was a sudden and accelerated drive to employ women in technical and manufacturing roles for a short time, little was done to help women balance employment and care work.¹⁷ After the war, consequently, women again came to be predominantly associated with the domestic sphere and care work (despite large numbers of women in employment before and after the war).¹⁸ Barbara Friedman suggests that this narrative of women's labour impermanence was deployed in wartime publications such as *Yank* as a means of reinforcing gender stability and continuity in order to convince men (in this case military servicemen) that women would not become competitors for work.¹⁹

Echoing this view, Leila Rupp in her *Mobilizing Women for War*, suggests that women's wartime employment was generally represented in national propaganda campaigns as conditional and temporary.²⁰ Rupp records how the social status of women as domestic homemakers remained consistent throughout the war, and women were addressed with conflicting messages about their place in the wartime society. According to Bilge Yesil, the media and advertising industries played a key role in circulating this contradictory representation. Specifically, Yesil's analysis of advertisements for female workers revealed a paradoxical gender messaging: while women were suggested to be capable of undertaking jobs previously reserved for men and to 'demonstrate their physical and mechanical competence', they were concomitantly told that their work was secondary to that of men and that traditional standards of femininity—home-making, family, beauty—still applied to them.²¹ Yesil investigates how this contradictory discourse played out across media messages during the war years when women's wartime work was framed as necessary to support men in their war effort, rather than as something intrinsically valuable to women themselves.²² This trend is very explicit in the wartime issues of NBC's staff magazine *NBC Transmitter*, which regularly featured photos of the replacement women undertaking men's technical roles.²³ Networks and stations also contributed to this discourse by publicising the work of their female employees, as well as by aligning themselves with the war effort.

As elsewhere during the war, the broadcast industry trade and promotional press tried to stabilise rather than challenge gender conventions when representing women's television work. As demonstrated by Melissa McEuen, the 'Rosie the Riveter' image took second stage to more common and traditionally feminine representations of women at work during wartime.²⁴ In fact, many scholars of the post-war period argued that the two representations of women that vied with each other in the press, magazines, and advertising were that of 'pageantry and of grime'.²⁵ Said differently, women were encouraged to be 'both beautiful and useful'.²⁶ Women were expected to be 'the defender[s] of the home on the domestic front,' whereby they would simultaneously uphold the values and ideals of femininity and domesticity. At the same time, they were to engage in typically male work outside the home.²⁷ According to Maureen Honey, this paradox effectively negated the radical potential of the wartime recruitment drive for women. This

is apparent in the case of the promotion of women's recruitment to and their work in television work in the 1940s. In this article, I trace the ways in which the WATTS performed this paradoxical role as female technical workers and explore the discursive shift in attention and representation of these women in the later war and post-war years.

Anticipating women's role in television

Between the 1920s and early 1940s, a gendered division of labour emerged in experimental television productions.²⁸ During these years, stations were granted licenses by the Federal Communications Commission to experiment with the technology and the form. Experimental programmes resembled vaudeville or film and often featured female 'mannequins' (models) performing in front of the camera. Women's ornamental function was further reinforced in promotional literature and the trade press in which, throughout the late 1920s and 1930s, women—young, white women especially—were used to market future television. For instance, in a campaign to promote television, NBC focused on the 'television girl', a fairly ambiguous role that selected suitably beautiful women to feature in articles and reports on NBC's television plans. Television press releases and magazine features introduced women such as Natalie Towers and singer Hildergarde as the new faces of television. Similarly, in a 1931 issue of the *Radio Digest* dedicated to the new stars of broadcasting, television girls were selected because they were said to have the correct televisual beauty.²⁹ The racial and ethnic homogeneity of the television girls was also suggestive of how the new medium of television worked to reinforce hegemonic white femininity.³⁰

Therefore, women were constituted as cheerleaders for television, without necessarily producing or being otherwise involved in television. In the late 1930s, when experimental television stations started more regular schedules of broadcasts, women occupied a fairly narrow space in the small television production ecosystem, while, at the same time, they were quite visible and prominent in the trade and popular press. This is exemplified by the extent to which women featured among the first television announcers in the US and elsewhere.³¹ For example, NBC's Betty Goodwin was already an experienced news reporter and had worked in NBC's Press Office prior to becoming a television announcer. Her functions in the latter role included introducing guests and acting during experimental demonstrations. Yet, press reports repeatedly emphasised her beauty more than her work, as evident in a May 1939 issue of *Sight & Sound* in which the report's author referred to Goodwin as 'a pretty young miss' whose 'attractive features televise exceptionally well'.³² Here, the television woman functioned as pure spectacle and as an object of pleasure for television viewers.

This focus on women's aesthetic role in television played out in the press even when women engaged in 'behind-the-camera' work. In the drive to popularise television in the late 1930s—when the public had little access to television sets—broadcasters and the press used the stories about 'female firsts' to elicit excitement and enthusiasm for television. The representation of the 'female first' did not necessarily have any truth to it and, indeed, successive women in television were regularly labelled 'firsts' as networks and stations competed to claim various television firsts for themselves. For instance, in 1939, when NBC announced that it had employed Thelma A. Prescott, whom it referred to as its 'first female director,' to direct women's programmes,³³ this signalled to the

public and the industry that NBC was quickly developing a broad suite of formats and genres for television. A daily NBC press report noted that the network had been preparing for television and '[w]hen NBC television goes on the air regularly next Spring, we shall appeal to as wide an audience as possible. The Woman's angle is therefore very important'.³⁴ The trade press reports on Prescott also helped to suggest and identify the roles that were available to women in the emerging television industry.³⁵

Another woman much discussed in the press with regard to her exceptionalism was Frances Buss, also labelled the 'first female director'. Buss recollected that none of the men she worked with 'put her down', but added that, as a rare example of a woman undertaking such work, she received a lot of press attention.³⁶ She also noted that 'the poor flacks at CBS, they had to write about something ... they found that I was an apt subject for promotion'.³⁷ According to Buss, the attention on her was prompted by her exceptional status as a woman working in television production: 'I got my name in the columns ... because I was a "femme director"'.³⁸ This was reflected in the numerous CBS television publicity shots that situated Buss in the control room, directing a scene and working with scripts.³⁹ Such trade discourses of women in television reflected the complex representation of female television producers during the late 1930s and early 1940s. On the one hand, women were often heralded as firsts, which implied that more would follow. On the other hand, while women were accepted as producers of television, they were also inferred to be more suited to women's programmes. They were represented as professional and competent, but also as exceptional.

The case of the WATTS reflects the complexities of this representation. Championed for their contribution to the war effort and to experimental television, these women—as suggested by the 'auxiliary' of their title—had at the same time a specific, temporary institutional role to play in 'holding the fort' at WBKB. The WATTS were intended to serve a specific and limited purpose of maintaining the television station, fulfilling the conditions of the experimental television license and fulfilling the regulatory obligation of producing a schedule of programmes until men were once again available to work. In addition, the promotion of the women in the press enabled Balaban & Katz (B&K), the WBKB station owner, to focus attention on its television endeavours. These two factors were no longer relevant by 1945. In October 1943, WBKB became a commercial television station and, as the war came to an end, returning men were re-employed by the station; in fact, the post-war recruits were primarily male.⁴⁰ By this point, there was less publicity about the women. I have found no evidence of how the WATTS disbanded—and if this disbanding ever occurred formally.⁴¹ However, during the 1940s, some members of WATTS began to leave for roles elsewhere. While individual women such as Beulah Zachary and Rachel Stewart remained at the station as producer and camera operator respectively, there was no further sustained recruitment drive for women. Although women did not disappear entirely from WBKB, the prominent role that they played in the station's conversion from experimental to commercial television was primarily tied to the WATTS status as auxiliary members of WBKB.

The WATTS's temporary status was by no means unusual in the US at that time. Upon entering the war in 1942, labour shortages adversely influenced the operational capacity of many organisations. Even prior to the overt government recruitment drive of women in 1943, companies and organisations—broadcasters included—had begun to hire and train women to undertake essential roles. Accordingly, through the War Department,

the Office of Wartime Information, and various companies, there emerged a national narrative of women's civic and patriotic duty to contribute to the war effort. They could fulfil this duty by joining the services, by undertaking typically male jobs and duties, and by sustaining American economic and home life.⁴² Broadcasters had already anticipated the necessity for—along with the opportunities afforded by—the recruitment of women. As suggested by the many newspaper reports encouraging women into science, engineering, and technology training and work, technical and engineering workers were in particular demand. For example, a December 1942 *New York Times* article reported on the 'many war jobs' suitable 'for college girls'.⁴³ The report promised women paid training for 'jobs which have always been considered either unsuitable or beyond the range of feminine ability'.⁴⁴ The report claimed that companies such as GE were seeking 'girls interested in ... television and radio research work'.⁴⁵ Furthermore, another *New York Times* report stated that Vassar College was offering women classes in sciences and technology so they could seek careers in television industries.⁴⁶ *NBC Transmitter* regularly reported on the women trained and recruited into production, as well as technical and engineering work.⁴⁷ Accordingly, the women who undertook training and work served a dual function: on the one hand, they solved the staffing crisis growing throughout the war years; on the other hand, these women served as useful promotional tools that helped align NBC with wartime patriotism. The WATTS served a similar purpose.

Press celebrations of women's wartime television work

WBKB was pragmatic in its approach to the war and to the continuation of television services for its duration. As mentioned, in response to the shortage of trained navy personnel, WBKB transformed part of its station building into a radar school. In fulfilling this military need, though, WBKB faced a shortage of staff in its experimental television station. Recognising that its experimental television license was conditional upon a continuous schedule of broadcasts, Bill Eddy decided to recruit women to replace male technical staff and to maintain the television service until the men's return. Following twelve weeks of training and practice in programme production and station operation, the women took charge of producing a range of programmes and genres. The initial eight WATTS undertook camera operation, control room operation, sound recording, programme directing and programme producing. The recruitment of women to replace male television staff resulted in two press narratives: one that focused on WBKB's role in the war effort, forming a success story where military shortages could be addressed, and the other which framed women as 'taking the reins' from the skilled professionals needed for more important business. The use of women for television technical work was perceived as a novelty at the time, and newspaper articles often included photographs of the women operating cameras and on the TV studio floor. For example, a November 1942 issue of *Broadcasting* featured a photograph of three of the WBKB women in 'in action' poses. To stress the women's capacity to undertake male roles, the women were depicted surrounded by broadcasting equipment and were dressed in uniforms of trousers and shirts. The photo caption read 'WATTS IN ACTION- three of the six WATTS (Women's Auxiliary Television Technicians) handling production and engineering at W9XBK, Chicago, Balaban & Katz television station'.⁴⁸

The same issue focused on the need for women to take up roles in television more generally and listed the training and employment opportunities, as well as the pay that women could achieve. Further newspaper articles stressed the women's authoritative and commanding role, yet also noted the temporary status of the women's employment. For instance, a *Broadcasting* article of 1942 ran with the headline 'Women Take Charge For War Duration of Balaban & Katz Station', signalling that while the station was in safe hands with the women, the women's presence was part of the overall war effort.⁴⁹ The same article stated that the 'femme staff, designated the WATTS by Lt. Eddy ... was selected for special aptitude in engineering'. As if to reinforce the women's expertise—and perhaps to imply a rigorous recruitment procedure—the WATTS were named individually. In one example from 1943, *Radio Daily* announced that 'a complete switch from male to female operators at W9XBK, Balaban & Katz television station was completed late last week when Helen Carson took over as station director in place of William C. Eddy, who is now with the U.S. Navy RADAR school as a lieutenant.'⁵⁰ Carson was represented in the same *Radio Daily* report as an ideal set of 'safe hands,' as she was already employed at the station as Director of Women's Activities and served as advocate for education and training.⁵¹ The shift to a female-run staff resulted in Carson's promotion to overall station manager. This initial press attention to the women strongly correlated with the broader broadcasting industry's response to the recruitment and employment changes brought about by the war where there was a need for men to take a period of service in the military or war-related work, while women temporarily stepped into the men's normal roles. Therefore, the enthusiasm for the employment of women stemmed from an understanding of these temporary employment changes as unorthodox.

In order to stress that the women were proxy television technical staff, several discursive strategies were deployed. One such strategy positively framed women who were thanked and celebrated for shouldering the burden of men's work until the time when they could return to their own feminine lives. Yet, along with discussing the women's 'auxiliary' status, the press also discussed those male engineers that the women were replacing. Accordingly, as well as naming the women who were undertaking television work, the articles also named the men that were taking temporary leave in order to support the radar training school.⁵² Doing so both pointed out whose job the women were provisionally taking and foregrounded the men's war contribution as radar trainers. For example, in a 1943 *Chicago Sun* WATTS article, reporter Betty Burns referred to Helen Carson as Bill Eddy's secretary who was stepping in as 'acting director'. Burns concluded that 'W9XBK is being necessarily operated by girls while its menfolk work for Uncle Sam'.⁵³ In the same article Burns also used a number of other strategies to maintain gender boundaries of work, even though the women were praised as efficient, competent, and enthusiastic. This gendering of the women took the form of language suggestive of the women's naivety, vulnerability, and Otherness. For example, feminine descriptors were used to signify the women's lack of belonging. The article opened with 'Look out men! Here comes another all-girl show ... but this time it is dainty feminine feet stepping into men's husky shoes'. The women were 'picking up the pieces [of television] ... and *knitting* them together'.⁵⁴ Television, the article's author said, was being 'completely "manned" by women' at the station. Although the women showed aptitude and were said to be competent and serious about their roles, the author suggested that

they had ‘no experience’ and were ‘just now in the learning stage and will be for some time to come as television is a vast and difficult science’. Because they were learning, the report said, they had a male engineer work alongside them to ‘explain the ‘gadgets’.⁵⁵ This discourse of master—apprentice helped to reinforce normative gender boundaries. But it is at odds with some of the later accounts provided by WATTS where they pointed out that they were extensively experienced across all roles in the studio (outside of engineering which was undertaken by one woman) and could work well in very challenging circumstances.⁵⁶

Gender boundaries were also established through the press’s visual representations of the WATTS, as well as through references to the women’s beauty and looks. This helped to mitigate the gender subversion depicted in the photographs where the women appeared in ‘masculine’ roles of television production and TV studio technical work. While some of these latter photographs placed the women in active, working poses that emphasised their performance as camera operators and directors, other press photographs reflected the tendency to present women not as active agents in the photograph, but rather as objects to be looked at, thereby transferring any agency to the photograph’s viewer. This tendency continued a long history of representational practices that, as argued by Berger and Mulvey, placed women in a subordinated representational role of ‘being’ and not ‘doing’, of being looked at and not looking.⁵⁷ Indeed, the WBKB recruitment call for women specified candidates’ appearance, even though their technical roles did not necessitate being on camera. Specifically, the job advertisement read: ‘Wanted: Telegenic Talent Girls for technical work in television studio. Mechanical experience unnecessary’.⁵⁸ This combination of reference to beauty and lack of skill is also prominent in Betty Burns’ *Chicago Sun* article where the women were referred to as ‘a group of attractive girls who formerly were secretaries and stage and radio actresses’.⁵⁹ Burns also noted that the girls were of the ‘lipstick variety’, again associating them with feminine display.

Furthermore, other news articles detailed the style, colour, and shape of the women’s clothing.⁶⁰ In yet another promotional photograph—entitled ‘Meet the WATTS’—the women appeared in a choreographed V-formation pose, kneeling and with hands folded in on their laps while they smiled. This took the women out of the context of television work and, given the staging and framing of the photograph, implied that their function was to appear in front of—rather than behind—the camera.⁶¹ A similar WBKB promotional photograph featured the women in skirt and blouse uniforms, again posed and smiling, this time on a stage floor.⁶² Likewise, in *The Balabanner*, the B&K magazine issued to servicemen around the world, the women were recruited to pose as pin-up girls, which further removed them from associations with ‘masculine’ technical work.⁶³ This was a practice not exclusive to *The Balabanner* since, as Friedman has demonstrated, wartime magazines such as *Yank* also featured female workers in pin-up shots.⁶⁴ During the war, *The Balabanner* featured pin-up shots of women employed across B&K’s stations and theatrical venues. For instance, Jean Minetz, who typically worked as sound technician on television productions, posed laying down in a short dress with the accompanying caption:

Eugenia Minetz is no bigger than a ‘!’ A B&K Television Studio WATT, she is 20 years old, five feet three inches tall, has blue eyes and brown hair. A graduate of the Jospheinum

Academy, her hobbies are television, dramatics and writing. She MUST be MUCH younger than 20, but inquire yourself at 1242 N Leavitt Street.⁶⁵

This appearance of the television technical staff as pin-ups for male servicemen both realigned the WATTS with the war effort and emphasised their supporting roles. The pin-up gig was perhaps the most explicit indication of how women's entry into work at that time required constant approval and mitigation.⁶⁶

The WATTS received this approval in their early years at WBKB when their television programmes were reviewed in magazines such as *Billboard* and *Variety*. Following initial press attention to the new recruits, attention then turned to the television programmes themselves. The WATTS were quickly tasked with fulfilling the license obligation of production regular programmes. By March 1943, the WATTS were reported to have efficiently achieved six months of all-female productions.⁶⁷ Between 1943 and 1945, their programmes were reviewed for the quality of storytelling, entertainment, and the standard of production and direction. The programme reviews were sympathetic to the experimental nature of wartime television and often supported the innovations taking place. Compared to the reviews of other stations such as CBS and DuMont, the WBKB programmes were generally well-received and of equal—and sometimes higher—standard. Like the news features on the WATTS, along with drawing attention to the novelty of an all-female production staff, the reviews also regularly pointed to individual achievements and failures. In keeping with the wartime narrative of perseverance and persistence, the WATTS were regarded as hard working if not indefatigable. Their efforts in form and content were acknowledged even if not successful. For example, a 1945 *Billboard* review called a failed drama programme produced by Fran Harris 'a noble experiment', stating that Harris should be 'given credit for trying', as repeated experimentation was required of the new medium.⁶⁸ The WATTS were also said to be far more inventive and innovative than other programme producers who heavily relied on film rather than live productions. Another *Billboard* article stated that 'the ten distaffers are long on entertainment ability'.⁶⁹ Camera operators Esther Rajewski and Rachel Stewart were often explicitly named when camera and lighting work was being commended. A 1945 *Variety* reviewer, for example, wrote about the 'double-dissolve technique for the ghost business expertly done by camera girls Esther Rojewski (sic) and Rachel Stewart. These technicians, by the way, are proving the bellwethers of the WBKB staff'.⁷⁰ Even in reviews that criticised the women's talent, performances, and overall presentation, the women could still be held as exceptions to otherwise dull television.⁷¹ During their tenure, then, the WATTS engaged in professional work that developed their technical skills, that maintained the television service, and that was, as suggested by many of the reviews, highly innovative and creative.

Professionalisation and the side-lining of the WATTS

This success of the WATTS was not to last. A number of events—including the reinstatement of men and recruitment of new men in the place of resigning women, as well as the shift in attitudes towards the women in the press—resulted in the disbandment of the WATTS. By 1945, those men who had transferred to the radar school started to return to WBKB television. A 1945 *Broadcasting* article quoted a WBKB executive saying that

'WBKB plans to augment its staff from time to time with people who believe in the future of television'.⁷² Female staff were being replaced and effectively demoted as men were recruited into technical and managerial roles. This is echoed in Terkanian's article in this issue where she finds similar practices of removal, replacement or redeployment in the BBC in the immediate post-war period. WBKB's replacement of women is also reflective of wider patterns identified by Ruth Milkman whereby post-war management (in industries where women had entered wartime work) reinforced pre-war sexual divisions of labour for a variety of reasons including ambivalence about women's wage equality and their undertaking of 'men's' or professional jobs.⁷³

As the station 'professionalised' with the employment of more men, B&K applied for a full time commercial license as part of its expansion plans for television.⁷⁴ The station committed to a significant increase in programme hours and was contracted to provide television coverage for sporting events.⁷⁵ WBKB began undertaking audience surveys to establish how viewers responded to programmes.⁷⁶ By 1945, the station was also developing a schedule of programmes that were either supported by advertising or sponsor-produced.⁷⁷ As the station professionalised, some of the WATTS were leaving. In 1945, Fran Harris left WBKB to join the video department of advertising agency Ruthrauff & Ryan (R&R).⁷⁸ Her role at R&R saw her produce sponsored programmes for broadcast on WBKB.⁷⁹ In that same year, three further women—Helen Carson, Ann Droben, and Marge Durnal—resigned from the station to work at different B&K theatrical venues, thus assisting theatres in their plans to enter the field of television.⁸⁰ (Carson later re-joined the station for a few years before departing in 1948).⁸¹ Trade press announcements of the 1945 resignations were accompanied by details of the male staff recruited into the television station.⁸² Over the next year, WBKB continued to grow its staff, with mainly male recruits taking up posts. In February 1946, *Billboard* reported that five new male engineers were hired. *Billboard* further noted that plans were afoot to 'hire new personnel to take over camera assignments and other studio jobs', even though no current staff would be fired.⁸³ By 1946, there was a dramatic change in the staffing at WBKB, resulting in women being in the minority at the station. Although women such as Rachel Stewart, Beulah Zachary, and Esther Rajewski remained, they no longer had the same level of autonomy they previously had as part of the WATTS.

In addition, attitudes to the women's productions had begun to shift by 1944 and accelerated throughout 1945 and 1946. While the women were viewed during the war years as part of television's future and as representatives of technological progress, later on—particularly in the immediate post-war burst of activity around television's expansion—they started to be associated with television's primitive past. For example, a November 1944 *Variety* article on Chicago television saw the women as part of the failure of WBKB to progress and expand, and to exploit the commercial potential of the medium.⁸⁴ While the article also pointed to a lack of physical infrastructure, the women's programmes were subject to far greater criticism. The article stated that the programmes were 'amateurish' and hardly worth reviewing. The reviewer showed disdain for the 'hackneyed shows put on by the all femme staff'.⁸⁵ Criticism of the women emerged again in the post-war years and at the time when the station was undergoing staff changes re-employing men to replace the women. For instance, a May 1946 *Variety* article cited anger towards the women by performers and acts recruited on programmes, quoting a

male performer who worked on a WBKB production as saying 'There are too many people, especially women, running around trying to be big shots and treating the rest of us like they're doing us a bit favour'.⁸⁶ The same articles reported that another actor said the experience was 'like a bunch of kids in summer theatre'.⁸⁷ The *Variety* article closed by quoting an actor who took the women to task for their lack of professionalism and who blamed the women for stifling the potential of television: 'Something could be made of television in Chicago, but there's too much incompetence from a bunch of girls, most of whom have had no stage background and don't even know the rudiments of direction'.⁸⁸ *Variety* took the male actors to be professional and well-versed in the television roles, whereas the women, despite their years of work in television production, were dismissed as inexperienced.

The women were also framed as part of the 'problem' of television and one of the reasons why there was a slow growth in Chicago television. In several articles on the post-war expansion of Chicago television, the women—together with the interference of the war and the lack of facilities—were referred to as one of the reasons for television's stunted growth. For instance, a January 1946 issue of *Variety* outlined plans for the improvement of television, including huge financial investment in facilities and the development of television techniques.⁸⁹ In accounting for why the improvements were needed, the article cited the wartime need to allocate the WBKB resources to the war effort and the move of Bill Eddy into the radar school which left women in charge of the television station. Although the women were not explicitly blamed, their work was still mentioned alongside the poor conditions and quality of the station, which was said to have cramped conditions and inferior equipment. Consequently, as the article went on, 'the staff is being strengthened' in anticipation of further commercial development, implying that the women's work was poor quality and part of the primitive era of the WBKB television.⁹⁰ This reframing of the women's wartime work was echoed in articles and reviews that compared contemporary programmes with programmes of the past. One such article, a January 1946 review of programmes, said that the programmes were of such bad quality that they were 'reminiscent of inferior video production that used to be commonplace at the station'.⁹¹ This 'dark age' of the WBKB television ended with the return of Bill Eddy who was framed as the right leader to bring the station into the new television era. Eddy was expected to 'give WBKB a shot in the arm' to propel it into a dominant position in the television landscape.⁹² Therefore, although a number of women remained at WBKB throughout the post-war period, the all-female work performed by the WATTS was posited less as innovative and groundbreaking and more as infantile and formative. In a historicising narrative of the television station, a 1946 *Telesvisor* article heralded Eddy and his male engineers as pioneers, while barely mentioning the women.⁹³ Thus, while Eddy came to be regarded as one of the foundational figures of Chicago television, the WATTS' work was somewhat forgotten.

In the post-war years, priority was assigned to the reemployment of men back in broadcasting and elsewhere and to the commercial expansion of television. In addition, in the post-war years, WBKB unionised under the jurisdiction of two unions: The International Brotherhood of Electrical Workers (IBEW) and the International Alliance of Theatrical Stage Employees (IATSE).⁹⁴ These unions worked to formalise job roles, especially technical ones, and set wages for them. Collectively, these factors led to marginalisation of women in the emerging professional television industry. While there is

uncertainty about the reasons for or events that surrounded the disbanding of the WATTS,⁹⁵ by 1946, a shift in the WBKB management and production culture resulted in the assertion of authority by men working at the station. Programme reports from 1946 suggest that there was concern about the women's place in the station and resistance to their authority. In one such report that highlighted disquiet amongst male technical staff managed by female producers and directors, Reinald Werrenrath, programme supervisor, suggested that this resistance was due to the women's incompetence:

By hiring men for the actual operating studio work, we should be able to achieve greater efficiency in most cases. However, if we plan to have our present staff of directors be directly in charge of these men when doing studio programs, we will run into trouble, as no more than three of our present directors are, in my estimation, capable of running a studio of men.⁹⁶

In addition, Werrenrath also proposed a more formalised and hierarchical organisational structure that would allow the station transition to 'large scale commercial broadcasting'.⁹⁷ This created heads of areas such as engineering, operations and production, with the chief engineer, 'technical director' and 'program director' in charge of their respective departments.⁹⁸ While some women remained as directors, producers, and camera operators, the changes in the environment obscured the role and status of women at WBKB.

Outside of WBKB, the national picture concerning women's opportunities in the broadcasting industry in the post-war years was similarly unclear. There was little consensus as to whether the industry would prove a major employer for women, whether priority would be given to returning servicemen, and, in fact, whether the anticipated industry and job growth would materialise at all. On the one hand, a 1944 *New York Times* article predicted that, while jobs in broadcasting would be available, women would not be employed at the same levels as during the war.⁹⁹ Similarly, trade magazine *The Exhibitor* predicted that up to 800,000 television jobs would be available to men and women, with the television industry 'particularly influential in combatting post-war unemployment of returning servicemen, displaced war workers, and victims of a potentially declining national income'.¹⁰⁰ On the other hand, a 1945 *Variety* article drew attention to the inroads made by women who took wartime broadcasting roles in radio, broadcast engineering, and in television where, in the case of DuMont's station WABD, women were equal in numbers to men.¹⁰¹ An issue of *Radio Daily* from the same year also featured the various broadcasting sectors that could be open to women in the post-war years. Citing what seems to be WBKB, writer Mildred O'Neill was optimistic about the opportunities for work in the emerging television industry:

Having broken down the barriers, it is only natural to find [women] at the beginning of 1945 in on the 'ground floor' of the video art. There are women scenic artists, make-up specialists, announcers, sound technicians, script writers and producers... There is considerable promise that the field of television will be an important source of female employment ... after the war.¹⁰²

WBKB employee Fran Harris also wrote optimistically about the jobs that women could have in television. Noting the 'important part' that women played 'in the development of television programs and program techniques', Harris listed a number of technical and production roles that may be suitable for women.¹⁰³

However, this optimism was not held by all. Charles Hurd, *New York Times* writer, painted a bleak picture of the employment prospects for returning female war veterans even in areas they had been trained in, such as engineering. Citing a study conducted by *Mademoiselle* magazine, Hurd argued that technical jobs were unlikely to go to women, since these roles were to be handed to men with more experience and training. In any event, he suggested that the unions were reluctant to allow female membership. Hurd noted that, while there might be less resistance to women 'in the new television and FM stations ... the prejudices of management and the resistance of the unions to admit you to membership will be here, too'.¹⁰⁴ As also stated in the Women's Bureau report on *Women in Radio* discussed earlier, gender boundaries were established and perpetuated, with women being encouraged into roles that seemed more in keeping with their assumed tastes and interests. In addition, in the post-war years, women were assumed to have other important roles in television beyond technical and production work. For instance, a 1946 article by Paul Raibourn, Paramount Picture's President of Television, went so far as to suggest that television viewing (rather than television work) would be a sufficient compensation for the women left who lost employment in the post-war period.¹⁰⁵ This attitude aptly captures a more general shift in the discourse on women and television: women were its audience and not its producers.

Conclusion

It is within this shift in women's 'television identities' that wartime narratives of women's television technical and production work were somewhat lost. In the post-war years, women's wartime foray into technical work came to represent a more desperate past, rather than a hopeful future. Ironically, television played a key part in the discursive construction of the non-working, domestic ideal that was one of the means through which women's work was represented as atypical and undesirable. In this sense, the history of the Women's Auxiliary Television Technical Staff was relegated to a story where women had only temporarily taken on the burden of men's work. In this context, the gendering of women's television work might have been represented not as a loss, but as progressive. Indeed, as elsewhere in the television industry, women continued to work in WBKB, if even under conditions a gendered hierarchy of labour that marginalised them. This having been said, the case of WBKB illustrates the centrality of 'femme' technical and production workers to some of the earliest developments in US television.

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