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The Dragnet: Early Police Radio as a Mobile Communication Prototype

In 1921 Detroit police commissioner William Rutledge began to experiment with using early car radio to communicate with officers in the field.[1] His hope was that this technology would give the officers more mobility and independence while at the same time giving the central command more oversight and control over the officers. Consider the most rudimentary one-way car radio communication system: emergency calls come into police headquarters, and alerts are then instructions are sent by a dispatcher to all cars patrolling in the area. Now compare this set up to previous communication systems. In some cities, police officers would patrol their beat waiting for crimes to occur nearby and then respond to any issues they encountered. Within this model, officers worked primarily independently and could call for back up by yelling, sounding alarms, and beating signals with their batons. In other cities, many officers would congregate in the central building waiting for calls to come in and then go to crime scenes as needed. So, you can imagine the enthusiasm with which the police community greeted Rutledge's experiments with radio, which freed more officers to work in the field and allowed dramatically more efficient coordination of those officers. Discussing the Detroit experiments in 1924, the chief of the federal Criminal Investigation Bureau predicted that police radio would was proving to be "the greatest scientific achievement in the history of the world."[2]

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[1] See Joseph A. Poli, "The Development and Present Trend of Police Radio Communications," *Journal of Criminal Law and Criminology (1931-1951)* 33, no. 2 (1942): 193. See also Donna Jarvis, Stephen White, Charles Wilson, and Michael Woody, *Images of America: Detroit Police Department* (Charleston, SC; Chicago, IL; Portsmouth, NH; San Francisco, CA: Arcadia Publishing, 2008), 10.

[2] "When Radio Is Used to Thwart the Auto Bandit," *The Washington Post*, 16 March 1924, SM1.

I am interested in this particular moment in the history of radio communication, because I believe it represents an important step in the development of the mobile communication culture we are immersed in today. On the most basic level, the cellular phone is the technological decedent of the radio, and it is therefore no surprise that Motorola, the first company to exploit cell phone technology on a large scale, began as a car radio company. But beyond this, police radio reveals some of the underlying choices and cultural assumptions that went into the future development of mobile communications. Today, I will discuss two major assumptions. First, mobile radio communication is not private. As we will see, police radio began as a publically broadcast program, and even when the communications were moved to private bands, a semi-public communication channel was retained as an important feature. The second assumption I will discuss in this presentation is related to the semi-public nature of the communication: mobile technologies were primarily imagined as a tool to manage an increasingly mobile population. As automobiles became more widely available and afforded people – police and criminals, employers and workers – the opportunity stray further and further from each other, mobile communication became another vehicle for tethering people to one another. Police radio helps us understand how mobile technology today imagines its users and helps us understand why the issues of privacy and surveillance are still very much with us today.

It took Commissioner Rutledge nearly 10 years to get a broadcaster's license for his police radio system.[3] Ultimately, the FRC provided Rutledge with a broadcasting license and allowed him to use the call letters KOP; however, in keeping with their new policy, they also

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[3] This period of broadcasting history can be understood as a period of backlash against the U.S. government's monopoly of radio during World War I. In 1920, President Wilson ordered the return of all confiscated radio stations by March of 1920, which led to a rapid takeover by commercial radio companies. After this time, there was widespread resistance to the idea of government agencies regaining control of the airwaves.

required him to include an "entertainment feature" as part of his broadcasts and required that his

band be publically accessible. As Rutledge explained it, "'If we wish to broadcast an alarm of

murder or holdup, we first must play a tune on the fiddle.'"[4] In order to comply with these

requirements, KOP played "Yankee Doodle Dandy" before making calls to its patrol officers.[5]

Similarly, the first police radio in Chicago was broadcast publically; however, the Chicago

station was integrated into existing broadcasts rather than manufacturing an entertainment

component. The first Chicago police radio messages were broadcast over WGN, whose programs

were "interrupted several times each night and frequently during the day by emergency

announcements."[6] This mixed style of broadcasting created major problems for the police, who

had to contend with crowds of people, who, following the police broadcast, often showed up at

crime scenes before the police and got in the way of their work. There were also reports that

suggest that criminals followed police broadcasts to make easier getaways.[7] Soon, police

departments figured out ways to communicate their messages more privately, even if they were

still available on public bands. In 1929, when the New York Police Department installed its first

mobile police radio system, they also broadcast messages over a publicly accessible band;

however, the messages were delivered in code "so that even if gangsters have sets…, they will

not understand the messages."[8]

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[4] Clyde B. Davis, "Radio Turns Crook-Catcher," *Nation's Business* 8, no. 3 (1930): 103.
According to this article, the commissioner became so disheartened by these "ridiculous and
discouraging conditions" that he shut down this station and resumed operations under an amateur
license for the next 7 years, when he was able to secure a dedicated and private band.

[5] Poli, "The Development and Present Trend of Police Radio Communications," 194.

[6] "Police Use Radio to Hunt Criminals," *New York Times*, 16 June 1929, XX17.

[7] Ibid.

[8] "Police Cars to Have Radio: New York's Officers to Listen In," *Los Angeles Times*, 22
September 1929, E3.

Despite the drawbacks of publically accessible police radio, these early police radio broadcasts had the dual benefit of publicly promoting police radio and getting citizens involved in crime-fighting, which became a popular item in the press. In fact, one police officer claimed that citizen involvement was essential to the success of police radio, because it helped ensure a speedy transfer of information to the police: "Mr. Private Citizen has only to phone and he knows a cruiser will be on the job in an incredibly short space of time."[9] The idea seemed to be that police radio was most effective when citizens reported crimes as they were occurring, and when radio messages could be sent to police cruisers in the area. In other words, vigilant neighbors were more effective in fighting crime than roving police officers. Newspapers and magazines were filled with reports of heroic citizens calling in reports that were then dispatched to police cars. A common theme in these stories was that anyone – even a child – could assist with catching a criminal, so long as their local police were assisted by a car radio system. For example, the *Atlanta Constitution* reported that an 11-year-old boy helped capture a robber by noting the license plate of his getaway car and immediately calling the police, who began chasing the car within minutes.[10] Technologies like telephone and mobile radio became essential tools of public safety and turned average citizens into extensions of their local police departments.

Radio not only helped citizens and police better control crime. It also allowed commanders better manage the police. Long before global positioning systems were invented, car radios were understood as devices that would allow centralized monitoring of an increasingly mobile population, and the first group to be closely monitored was the police force itself.

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[9] "Value of Radio to Police Shown by Detroit Man," *Atlanta Constitution*, 12 December 1928, 11.

[10] "Police Radio Aids in the Caputre of One Bandit," *Atlanta Constitution*, 1 February 1929, 8.

However, car radio allowed police to be guided by a centralized command center, which would direct officers to areas where crimes were taking place. According to many accounts, one of the primary benefits of police radio was that "patrolmen can keep in constant touch with Police Headquarters" rather than working independently.[11] As one writer explained it, "The chief value of the radio is that police officers on patrol are constantly under the direction of their superiors."[12] This top-down approach not only allowed headquarters to coordinate police activities, it also allowed them to keep close tabs on what the officers were doing and begin to increase their efficiency. Police radio changed the role of the police officer from an independent investigator who could direct his own work to an interchangeable part of a much larger process. As one writer described it "The county Sherriff and the village constable have become important cogs in the machine, and they know it and are proud of it."[13]

As this quote suggests, one of the perceived advantages of mobile media is that it can attach to users wherever they go and help manage their activities, thereby turning them into extensions of machines. Again and again, discussions of police radio focus on the ways that the new technology would transform a rag-tag group of men into an efficient and responsive crime-fighting machine. Underneath many of the accounts of police radio was an assumption that policemen were incompetent and that they needed managers and technologies such as squad cars and radios to keep them in line. In a report studying the results of the Detroit police radio experiment, a member of the Atlanta Police Department argued that police radio would make its own police force more effective:

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[11] "Police Use Radio to Hunt Criminals," XX17.

[12] Karl Detzer, "Michigan Police Radio Covers the Entire State," *New York Times*, 4 October 1931, 136.

[13] Ibid.

> Certainly an officer is more effective when patrolling the streets
> than hanging around police headquarters, and by the same token,
> an officer actually patrolling is more effective when he can
> instantly be sent to the scene of a crime by means of a radio, where
> otherwise he would wander more or less aimlessly over his beat,
> seeing nothing and hearing nothing unless it happened in his
> presence.[14]

These comments suggest that without radio, police officers would be misguided and ineffective.

In addition to helping manage and professionalize the activities of beat cops, police radio also helped to create a more data-driven culture within police departments and to hold officers to very concrete measures of efficiency. It was widely believed that police radio turned police work into "an exact science," thereby allowing them to combat crime with an unprecedented degree of precision and efficiency.[15] Early adopters of police radio claimed that the device could reduce crime by as much as 75%.[16] Others touted the fact that police logs were showing faster response times and up to 54% more prosecutions: "We are catching and convicting more stick-up men, robbers and other criminals than ever before."[17] Also, because headquarters knew precisely when officers received an alarm call, police departments began tracking how quickly arrests could be made. The Detroit police department, for example, promoted a remarkable statistic: 600 "important" arrests were made in an average time of 80 seconds after a message was sent through the police radio.[18] There seemed to be a belief that speedier arrests would not only result in the arrest of more criminals, they would also be a powerful deterrent. As one writer put it,

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[14] "Police Committee to Ask for Radio Installation at Council Meeting Today," *Atlanta Constitution*, 6 May 1929, 2.

[15] Detzer, "Michigan Police Radio Covers the Entire State," 136.

[16] "Police Committee to Ask for Radio Installation at Council Meeting Today," 2.

[17] Davis, "Radio Turns Crook-Catcher," 101.

[18] Ibid.

"law breakers [will] fear the speed with which the department responds to emergency calls."[19] And while the police were using car radios to improve their surveillance activities, police commanders were using them to extend their oversight and management of their mobile officers.

By 1932, many police departments began upgraded to two-way radio systems, which increased the mobility of officers and gave them more control over the flow of information but which also created more opportunities for surveillance. Two-way police radio gave beat officers a voice. Centralized dispatchers were no longer the sole nexus of information about where police officers needed to focus their attention; officers could report crimes and call for back-up, thereby directing the work of the dispatchers. As one article described it, two-way radio represented "the first practical system which enables officers to converse freely with headquarters."[20] And as mobile radio became more powerful, police officers could go further afield, so long as their radios were within range. This additional freedom sometimes encouraged officers to take more liberties while on the job. At the same time the two-way radio had a tendency to disclose these behaviors, thereby restricting the officers' newfound freedom. The press loved recounting stories of officers who left their car radio's transmitter on and who were therefore caught flirting in their squad cars. One article refers to the two-way radio as a "tattle-tale," because it broadcast an encounter between an officer and a young woman who "neither required information, was neither aged nor infirm, blind, taken suddenly ill or otherwise temporarily unable to care for herself."[21] In addition to creating opportunities for surveillance in the workplace, the two-way radio was also used as a justification for increasing the workload of officers and, in some cases,

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[19] "Police Committee to Ask for Radio Installation at Council Meeting Today," 2.

[20] "New G.E. Police Radio Enables Patrolmen in Autos to Converse with Headquarters Like Telephoning," *Wall Street Journal*, 21 July 1934, 8.

[21] "Police Car Radio 'Old Tattle-Tale'," *Los Angeles Times*, 17 January 1940, A.

reducing staff. Many police departments justified the expense of two-way radio by arguing that they allowed departments to patrol much larger areas, such as suburban communities like Lake Forest and expansive cities like Los Angeles, with fewer staff.

Now I want to switch gears slightly to discuss the ways that police radio systems were adopted for civilian use and how this same tension between publicity and privacy, freedom and surveillance remained. In 1935, Henry Ford began actively promoting the use of two-way police radio for use by busy executives, and the rhetoric behind these mobile devices mirrors that of the police radio. Like police radio, civilian two-way radio was imagined as a tool to both give managers and workers more freedom and to make sure they could keep tabs on each other. Ford first became fascinated with car radio while he was on a trip to Schenectady, where a local police officer offered to let him try out his new car "radiophone." Ford decided to use this as an opportunity to call a plant manager in Argentina, who wanted to know when Ford was coming down to Buenos Aires. Ford replied, "'Oh, I don't know. Maybe some time. But why should I travel such long distances when I can talk to you by radio with such ease as I am speaking here tonight in the radio police car."[22] This suggests that both Ford and his plant manager will gain additional autonomy: Ford can go on a vacation instead of travelling to Argentina for work, and the plant manager in Buenos Aires can manage his plant for longer periods of time without direct oversight by Ford. However, the flip side of this autonomy becomes apparent in Ford's commentary:

> He intimated that considerable time might be saved by a busy
> executive if his automobile was radio-equipped so that he could
> spend the time driving from home to office with telephone calls
> reaching him from various points. [23]

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[22] "Henry Ford Tests the Possibilities of Radio Telephone in Motor Cars," *New York Times*, 6 October 1935, 167.

[23] Ibid.

This quote suggests that the time saved travelling to and from remote offices is not necessarily spent on vacationing. Rather, this time can be more efficiently filled with work. The quote also suggests that standard commutes between work and home will no longer represent down-time or time when a worker cannot be contacted by his or her boss by telephone. So, if Ford gives his plant managers car phones, they can be reached at almost any time of the day or night – at work, at home, and everywhere in between. White collar workers today are certainly familiar with the bind created by mobile technology: while they may have more freedom to leave work to attend to personal activities, they also give up the protection and privacy that comes from clearly demarcated divisions between work and home, and work tends to intrude on everything they do. One final point about Ford's vision for car radio: clearly, companies like Ford were multinational corporations that had to manage workers across long distances and through many cultures. Therefore, it is not surprising that the car radio would be such an attractive technology to Ford. It helped facilitate the management of remote offices while at the same time increasing the efficiency of the company, thereby allowing it to expand to more remote regions.

In the 1940s, as two-way radio systems were developed for civilian use, this same dichotomy between work and play, freedom and surveillance became a more commonplace concern. In 1945, AT&T and Bell Telephone began developing mobile telephone service on several highways. Bell, for example, announced plans for service among 1,000 miles of highway between Chicago and St. Louis, Peoria and Springfield, and New York City and Albany.[24] Illinois Bell promoted two-way car radio as part of campaign to expand and improve telephone across the state. This expanded service was intended to increase the privacy of communication

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[24] "Bell System to Offer Mobile Phone Service on 3 Eastern Highways," *Wall Street Journal*, 19 December 1945, 6.

while at the same time expanding the places where one could use a telephone. In a 1946

advertisement, for example, Illinois Bell explained that expanded service would reduce reliance

on party lines and would replace switchboard operators with "modern dial service."[25] In other

words, people would gain more privacy, since they wouldn't have to share their lines with their

neighbors or talk with a telephone operator to place their calls. At the same time as Illinois Bell

was increasing privacy, they were expanding service to new areas that were previously not

served – rural communities as well as the highways in between. This expansion meant that

people could now be accessible in places they never were before. According to the Illinois Bell

ad, mobile radiotelephones would allow truckers, whose work was very solitary, to "talk by

telephone with their offices or with each other." [26] Initially, companies with mobile workforces,

such as trucking companies, taxi companies, and newspapers embraced car phones. News stories

about mobile telephones not only emphasized the novelty and excitement of telephoning while

driving; they also underscored that people who used mobile telephones were more efficient. The

Chicago Daily Tribune, for example, tested car radio for use by its journalists, and the story

about the test was dictated from the car: "This is being dictated from a moving automobile. It is

part of the first public test of the newly authorized mobile telephone service."[27] This was an

exciting announcement in part because the journalist was able to dictate his article while he was

on the road, rather than waiting to get back to the office to write his story. This also meant that

his office knew precisely what he was doing at the moment he was doing his field research. As if

to underscore the potentially supervisory nature of the car radio, the author speculates that the

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[25] "These Are People Who Will Benefit from Illinois Bell's $160,000,000 Program of Expansion and Improvement in Telephone Service," *Chicago Daily Tribune*, 14 March 1946, 18.

[26] Ibid.

[27] "Auto to Office Telephone Call Proves Success," *Chicago Daily Tribune*, 16 May 1946, 21.

technology will ultimately be used by parents to keep track of their children: "Eventually the system might permit dad to stop junior when he tries to take the family car for a date over parental objection."[28]

In fact, throughout the 1940s, family members who wanted to stay in touch while they were apart were already using two-way radios, and these same tensions between work/home, publicity/privacy, and supervision/freedom are evident. For example, in 1945, the *Los Angeles Times* ran a front-page article about the ways families were integrating mobile, two-way radio into their everyday lives. According to the article, one of the benefits of a mobile car radio was that it allowed wives to monitor the activities of their husbands. The article features the Wares, a suburban Los Angeles couple that communicate by ham radio while Mr. Ware is commuting from work to home. The communication, it seems, is very one-sided, and Mrs. Ware calls periodically to check up on him. In one exchange, she says: "'Look, Pappy, you get home to dinner before I get mad.'"[29] A photograph shows a young Mrs. Ware in her apron at the stove with a spatula in one hand and the ham radio microphone in the other. She speculates this is just the beginning of a mobile communication revolution: "…when television comes in, the wives of America will finally have 24-hour control over their husbands."[30] The titillating subtext is that Mrs. Ware has to "keep tabs" on her husband in order to prevent some infidelity or other misbehavior; however, there is another, more mundane explanation, namely that she wants to time her dinner with her husband's arrival. In other words, her call was necessary precisely because the realities of a mobile workforce and concomitant long commutes meant that it became more difficult for couples to coordinate their daily lives. As Mr. Ware explains, he

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[28] Ibid.

[29] "Home-to-Auto Radio Keeps Tabs on Husband," *Los Angeles Times*, 27 August 1945, A1.

[30] Ibid.

doesn't view his wife's intrusions as nagging but rather as an opportunity to check in while he's on the road. And, he argues, the radio actually gives him more freedom, not less: "'It's a good deal,' he says. It beats stopping at a corner phone booth and putting a nickel in the slot!'"[31] Similar bargains are still being made in families today. Children both resent and feel reassured when their parents check up on them by cell phone, and this supervision seems like a fair trade for the mobility and freedom they are allowed. The same could be said of their parents. They resent the extent to which their children spend so much time texting their friends; however, they are willing to put up with the constant texting, because it means they can reach their children no matter where they stray.

While there are important differences between two-way radios and smart phones, the differences are not as great as they might initially seem. At the most basic level, all of these technologies are designed to bring mobilized populations into communication with each other. This seemingly simple concept fundamentally changed the ways that people think of themselves and their interactions. Because that these interactions are broadcast over public or potentially public airwaves, mobile radio also allowed people to mix public and private space in new ways. This feature of mobile radio has always been and remains a double-edged sword. On one hand, it gave people greater mobility and allowed them to stay in touch while travelling longer distances. On the other hand, these remote connections make them vulnerable to surveillance, because the content is broadcast over airwaves that are very difficult to secure. This tension between private and public modes of address, between freedom and surveillance has driven many innovations in mobile radio. This tension also remains one of the fundamental issues we need to resolve as we rely more and more on our mobile communications devices.

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[31] Ibid.