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Stephen Lippmann^a

^a Department of Sociology and Gerontology, Miami University,

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Boys to Men: Age, Identity, and the Legitimation of Amateur Wireless in the United States, 1909–1927

Stephen Lippmann

Although amateur radio remained popular for 100 years, it faced a crisis of legitimacy during the 1910s. The damaging behaviors of some operators threatened amateurs with banishment from the airwaves. Through an analysis of archival material from various sources, this paper demonstrates that in order to distance themselves from the actions of malevolent pranksters, responsible wireless operators tapped into contemporary cultural debates about maturity and the emergence of adolescence. As a result, amateur operators legitimated themselves in the eyes of the public while carving out a distinct space for youth hobbyists.

Amateur radio is a popular hobby in the United States. In 2008, the American Radio Relay League (A.R.R.L.), the largest national amateur radio organization in the country, had over 154,000 members (A.R.R.L., 2008). Even in its earliest years, the ranks of amateur hobbyists grew at a tremendous rate, from 1,083 licensed amateurs in 1913, to over 10,000 in 1916 (U.S. Department of Commerce, 1913; U.S. Department of Commerce, 1916). While the hobby today is often viewed as an innocent, highly technical, and somewhat marginal one by the general public, this was not always the case (Haring, 2007).

Early in the twentieth century, when wireless communications technology was used commercially by shipping companies and the U.S. Navy, amateur wireless operators were blamed for exacerbating the damage done by shipwrecks, interrupting and interfering with rescue efforts and in some cases, directly causing them. On land, some amateurs received bad press for disregarding rules of wireless communications, for interrupting commercial and other transmissions, for switching frequencies too often, and for using foul language. As a result, wireless experts, the

Stephen Lippmann (Ph.D., University of North Carolina at Chapel Hill) is an assistant professor in the Department of Sociology and Gerontology at Miami University. His research interests include the institutional and organizational dynamics in the early radio industry and media coverage of mass layoffs and downsizing.

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government, and the general public viewed amateur wireless operators with disdain. This new hobby faced a crisis of legitimacy very early on and was threatened with extinction.

This article examines the negative public perceptions of amateurs during the hobby's first decade-and-a-half. In addition, it investigates how responsible amateurs worked to create amongst themselves a hierarchy of operators based largely on age distinctions to separate themselves from the damaging behaviors of some amateurs, to legitimate themselves in the eyes of the public, other wireless interests, and the government, and to create an inclusive space for younger and more casual amateur operators. The article begins by reviewing the literature on the history of amateur wireless operators and on efforts during the early years of radio broadcasting to "construct" participants during an era when wireless was poorly understood. It describes the negative public perceptions of amateur operators that arose early in the technology's existence before discussing the issue of boundary construction in leisure activities. Finally, drawing on theories of "serious leisure," the paper documents the efforts of the A.R.R.L. to construct boundaries between legitimate hobbyists and harmful pranksters, and their establishment of a hierarchy of wireless participants.

The Construction of Radio Users

Although the "boy problem" in wireless was discussed in several prominent broadcasting histories (Douglas, 1989; Hilmes, 1997), the present research builds on these studies by examining which amateurs and amateur groups actively reframed the public discourse that led to such negative perceptions of them by constructing categories of amateur users. It contributes to the small but growing body of research on amateur wireless history. Although well-documented by the A.R.R.L. itself (A.R.R.L., 1964; DeSoto, 1936), amateur history was paid relatively little attention in academic research. The current research demonstrates how amateur hobbyists shifted the focus away from irresponsible operators, and onto the public benefits of wireless, and the need for amateurs to embrace, mentor and nurture younger enthusiasts into what older and more responsible ones considered a well organized hobby.

A large body of radio historiography focuses on the ways in which broadcasters in the early years of the industry struggled to create and project a resonant identity to broadcast audiences, and how those audiences and their expectations were culturally constructed (Douglas, 2004; Hilmes, 1997). Commercial broadcasters faced parallel challenges in explaining to audiences that radio listening had value, and also in creating coherent market segments to which advertisers could target their messages. Considerable skepticism existed early on (Douglas, 2004), but over time broadcasters began to embrace advertising and construct audience segments to meet the needs of marketers (Arceneaux, 2009; Butsch, 1998). The two biggest distinctions were along race and gender lines. Programmers created new genres

of programming for the benefit of beauty product and home-goods retailers that appealed to women's interests of the day, and in doing so created not only audience segments and programming norms, but also reinforced wider gender norms (Butsch, 1998). Radio also contributed to racial formation in the United States as commercial broadcasting appeared during the peak of the "Great Migration" of African-Americans from the U.S. South to Northern and Midwestern urban centers where radio was concentrated. As radio brought African-American music to a wider audience, it helped to create cultural boundaries between Blacks and Whites and institutionalize racial boundaries in cultural terms (Patnode, 2003; Vaillant, 2002).

Although they reveal much about the social construction of radio audiences and radio's role in reinforcing social boundaries, these studies share a focus on a period "when the structure of broadcasting in the United States was securely in place" (Hardt, 2000, p. 130). This article focuses on the developments of the previous decade, a foundational period in the history of wireless communications (Douglas, 1989). In the 1910s, the general public and even some with direct interest in wireless lacked a thorough understanding of the technology and its applications. Among those individuals and groups who understood these issues, struggles emerged to create meaning for wireless, space for participants with varying levels of commitment, skill, and seriousness, and to place it into the cultural and economic life of the United States in a manner that would serve their own interests. To do so, proponents of amateur radio invoked notions of age and maturity in order to create boundaries and participant categories that continue to be salient in media consumption and production.

Wireless Communication in the 1910s

Guglielmo Marconi patented the "wireless telegraph" in 1896. Over the course of the next 10 years, amateurs were responsible for technological developments later adopted by commercial users (DeSoto, 1936; Hilmes, 1997). At first, amateurs worked in relative isolation from one another. As their numbers grew, however, amateur wireless hobbyists mobilized and formed a more coherent group. In 1909, the Junior Wireless Club Limited (renamed the Radio Club of America in 1910) was formed in New York City, and became the first of hundreds of amateur radio clubs organized across the country in the coming decades (Douglas, 1989). In 1914, the A.R.R.L. was formed as a national umbrella organization to unify all of the small local clubs, and by the end of that year had over 200 local affiliates (DeSoto, 1936). The ultimate goal of these local and national clubs was to organize and unify the growing number of amateur radio operators, share accomplishments, and push forward the state of the art in the first decade-and-a-half of the twentieth century. By 1916, there were 10,279 licensed amateurs and countless others operating without licenses (U.S. Department of Commerce, 1916).

Amateur wireless was—and remains—a technical hobby centered on the construction of homemade radio transmitting sets. This presented a particular chal-

lence early on, when commercially available parts were scarce and amateurs often constructed their sets out of found objects and household junk. The earliest hobbyists, who were overwhelmingly male, utilized "spark-gap" technology, in which an electric current was sent across a gap between two conductors. The spark emitted electromagnetic waves at a particular frequency, which could be received by an appropriately tuned receiver. Although new and more efficient methods of transmitting emerged in the 1910s, this technology remained popular with casual and less experienced hobbyists for some time (DeSoto, 1936).

Clubs and local wireless communities arose as ways to share information, meet like-minded enthusiasts, and stay on top of technological developments. At first, amateur activities were decidedly local, spanning cities or even adjoining neighborhoods. As their numbers grew and the quality of their equipment allowed for longer-range transmissions, amateur operators used wireless technology for a variety of purposes. First, and most popular, was the practice of "DXing," in which amateurs tested their technological prowess by attempting to send their signal as far and to as many other operators as possible. Pursued primarily for personal pleasure and interest, this hobby became quite popular by the early 1910s, and the airwaves were full of amateur DXers testing the quality of their homemade sets (DeSoto, 1936).

A second and more damaging activity that received significant attention from the media, the government, and the general public was amateurs' use of the airwaves to spread rumors, threats, misinformation, and other prankish behavior. Searching for and interrupting transmissions between ships or other operators became a popular pastime for a small but visible minority of amateur wireless operators (Douglas, 1989). In some cases, amateurs were accused simply of interrupting business messages ("For Control of Wireless," 1910). In other cases, the mischief was more serious. Obscene, vulgar, and incorrect messages were sent to ships intended to annoy their captains or to send them off course. Douglas (1989) describes an amateur who told a Navy wireless operator to "butt out," and complained to him via his wireless set that "you navy people think you own the ether. Who ever heard of the navy, anyway? Beat it, you, beat it" (p. 210). In March of 1909, amateurs off the coast of Rhode Island sent out false reports of a shipwreck to Navy rescue ships, which spent an entire night searching for the nonexistent wreckage ("Wireless Amateurs Send," 1909). After a real disaster, when the steamship *Republic* collided with *SS Florida*, the Navy captain searching for the wreckage reported that "our wireless was interfered with constantly by amateurs while we were searching for the Republic . . . we were given four different locations of the crippled steamship, to all of which we went . . . the reply [from Washington, for an official location] was delayed 12 hours, and the delay was caused by sending private messages and the interference of amateur operators" ("Captain Says Amateurs," 1909).¹ Stories in *The New York Times* and *Electrical World* reported on several similar incidents that occurred over the next 2 years (Douglas 1989). The situation became more serious in 1912 with the sinking of the *Titanic*. According to Krattenmaker and Powe, "investigation into the disaster revealed that distress calls had been received by the Marconi station in Newfoundland. As the news broke, however, amateur

radio operators along the East Coast filled the air with questions, rumors, and, most of all, interference," severely hampering rescue efforts (1994, p. 5).

These events, and others like them, spurred two efforts to remove the perceived threats that amateurs posed to wireless communication. The first was a regulatory one, motivated in large part by the Navy's growing frustration with amateur interference. As early as 1906, the U.S. Navy pushed for control of the airwaves in response to amateur pranksters and commercial competitors all interfering with government communications (Howeth, 1963). In the 3 years prior to the *Titanic* disaster, more than a dozen Congressional bills were introduced intending to regulate wireless communications. The more forceful bills included those proposed by Rep. J. Francis Burke, Senator Chauncey Depew, Rep. William S. Greene, respectively, that ranged from the requirement of wireless apparatus on passenger ships carrying 50 passengers more than 500 miles, to station licenses, and reductions on amateur power and wavelengths in order to limit their ability to interfere with the military (Douglas, 1989; U.S. House of Representatives, 1909; U.S. House of Representatives, 1910a; U.S. House of Representatives, 1910b; U.S. Senate, 1910).

Anti-amateur sentiment culminated in a House bill introduced by legislator J. W. Alexander, which proposed a wide variety of regulations, including requiring equipment on all ships, two or more competent operators on those ships, and had "for its object the abolition of [amateur] wireless radio" with its proposal to eliminate amateur transmitters altogether (DeSoto, 1936, p. 30; U.S. House of Representatives, 1912). After much opposition from amateur operators, a toned down version of the Alexander bill which allowed amateurs to operate on restricted wavelengths became the Radio Act of 1912. The bills reflected the widely felt sentiment, further articulated in the news media, that amateurs in wireless had to be controlled, if not eliminated altogether.

The second effort occurred in public debates about the future of the emerging technology. Newspaper editorials and expert opinion turned against the amateur in wireless. As early as 1909, when wireless was virtually unknown outside of a very small circle of users, complaints were reported in the *New York Times*. On March 12, shortly after a collision between two ships, "amateur operators" were blamed for making "it impossible for [one ship's wireless operator] to get word to the rescue cutters or the shore stations, the messages becoming a jumble of sounds with no meaning whatsoever" (Du Bois, 1909). Over the next 3 years, the frequency of these complaints increased, as did calls for regulating or removing amateurs altogether. In March of 1910, the U.S. Navy conducted tests "to show the serious interference of amateurs who intercept messages and greatly obstruct the government's wireless information department in Washington" ("News of Newport," 1910). As these incidents grew more numerous, the perceptions of amateurs quickly grew negative.

In addition to growing more negative, a particular profile of misbehaving amateurs first emerged in media discourse in 1909. In a short article, *The Outlook* magazine blamed "young amateur operators" for interfering with naval efforts to reach a fleet at sea ("Wireless Interlopers," 1909, p. 423). In April of that year, Robert A. Morton

wrote in the technical magazine *Electrician and Mechanic* that “the naval stations about Boston are ‘snowed under’ by a number of school boys who take to wireless telegraphy as a pastime” (Morton, 1909, p. 422). Morton echoed these themes in January of 1910 on the pages of *The Outlook*, arguing that “hundreds of school-boys in every part of the country have taken to this most popular scientific fad” (Morton, 1910, p. 132). Such popularity was the cause of great interference, he argued, and “a slight amount of regulation will easily suffice to prevent the abuse by the irresponsible school-boy of his latest scientific toy.” Two weeks later, on January 28, 1910 (“Mischief in ‘Wireless,’” 1910) the topic made its way into the *New York Times* where an editorial responded to growing interference that “it is very doubtful whether irresponsible boys and young men, or any amateur operator of wireless instruments, should be allowed to work them at all times and places.”

As these descriptions became more common, the association of “boys” with malicious amateurs became stronger. Although there was no licensing process for amateur wireless operators in June of 1910, and there was no way to verify any of the information, the *Times*’ editors reported that “There are said to be 50,000 amateur stations in the country, many of them conducted by boys, and it is said that in many instances they have prevented the delivery of business messages” (“For Control of Wireless,” 1910, p. 7). Alfred N. Goldsmith, professor of electrical engineering at the College of the City of New York and secretary of the Wireless Institute (a wireless technology professional association) wrote a series of opinion pieces in the *Times*; deriding the typical amateur for sending “out energy on all wave lengths from his poorly designed and even less skillfully operated set ... It is in lost time, delayed and imperfect transmissions of valuable messages, and in general impairment of the efficiency of radio-communication that the harm done by the amateur is found” (Goldsmith, 1912a, p. 14). Goldsmith wondered “why make every wireless operator in commercial or government service the victim of such children as may be desirous of playing with what should be reserved for serious and important purposes, namely the ether path of communication?” (Goldsmith, 1912b, p. 14). The *Times*’ editorial page quickly agreed, and in April, 1912 argued that amateurs “are irresponsible, and their interference with the commercial government services is serious” (“Mr. Berger’s Wireless Bill,” 1912, p. 10). Depictions such as these continued after the passage of the Radio Act of 1912, when a *New York Times* feature article on that piece of legislation declared that “government wireless control ends anarchy of air” and prominently featured a picture of a young boy and his radio set which, according to the caption, depicted the average “amateur wireless station and operator” (“Government Wireless Control,” 1912, p. SM3).

The association of amateurs, especially those causing interference and other trouble, with boys carried important implications for the public perception of the technology, its applications, and its users. According to Hilmes (1997), in a history of American radio broadcasting, the use of the term “boys” to describe amateurs invoked an image of amateurs that, while not necessarily accurate, was powerful. Over time, Hilmes argues, the continued references to amateur operators as “boys” left them powerless in the battle with commercial broadcasters that occurred in

the 1920s. Although in the end it is hard to argue against the rise to supremacy of commercial radio broadcasting stations, and the power these organizations yielded in legislative battles and over the control of the airwaves, it is erroneous to consider this a zero-sum outcome, in which the dominance of the commercial broadcasters occurred at the total expense of the amateurs (Walker, 2001). Secretary of Commerce Herbert Hoover continued to monitor amateur interests, partly due to their success at self-regulation and partly because of the background in engineering, and they were active participants in his important National Radio Conferences, during which the foundations for the Radio Act of 1927 were laid (Rosen, 1980; U.S. Department of Commerce, 1922). In addition, they secured space for themselves on the broadcast spectrum and their right to continue their activities in that space, and successfully changed public perceptions of themselves and their activities from negative to positive. Questions remain about why these associations of amateurs with “boys” occurred as much as they did during these early years, why they were so resonant, and the ways in which the amateurs overcame them to promote a positive image of themselves and their work. In the sections that follow, I provide answers to these questions by focusing on amateur efforts to reframe the depictions of amateurs, particularly younger and less experienced ones, by creating categories of amateur hobbyists that made room for less experienced and perhaps more immature operators, while at the same time shifting the focus onto more positive, responsible, and socially valuable uses to which amateur wireless was being put.

Boundary Building and Amateur Legitimacy

Amateur wireless was threatened by the harmful antics of pranksters and the negative attention they brought upon the entire community. The issue became particularly acute when frustration with “boys” among amateurs themselves began to emerge. When interference made transmissions between amateurs difficult, young operators took the blame. One contributor to *QST*, in September 1916, described “the kid across the street [who] turns loose a whole darned air full of Hertzian waves in order to ascertain whether or not he can disturb someone . . . Nightly, he raises chaos to the Nth power” (Wolfe, 1916, p. 248). In January 1917, the editors of *QST* concluded that “the trouble [with interference] is the young squirts don’t stop to think. They start out and call somebody somewhere every three minutes” (“Rotten QRM,” 1917, p. 9). As new technologies were developed, and the older, spark coil transmitters—a popular and relatively easy to operate amateur technology at the time—fell out of favor among more advanced operators, the editors came to the technology’s defense. In March 1917, they reminded readers “that the spark coil is not such a poor miserable piece of apparatus as it is painted and those who operate them are not all still nursing a bottle . . . for some reason or another, we have assumed that the age of the delinquents of tender years [because] many a good message has been killed on account of him and his thoughtless scratchings” (“The Little Boy,” 1917, p. 27). They continued to defend the technology and deflect the

blame onto younger operators as late as September 1919 ("Reforming the Squeak Box, 1919, p. 13): "The nightmare of all good A.R.R.L. men has long been 'the little boy around the corner with the spark coil,' for whose proper disciplining the Old Man has stayed up nights." The technology itself was not to blame, but "it's the combination that causes trouble: the small boy plus the spark coil."

More responsible and committed amateur operators responded by building boundaries—not only around the entire community in order to differentiate themselves from the mischief makers, but also within their ranks to create a hierarchy of roles into which participants could fit based on their age, skill-level, and reason for participating. The "boy" problem and the age-based rhetoric that placed blame on younger operators was particularly powerful just after the turn of the twentieth century, when adolescence was emerging as a life course phase and subsequently creating considerable controversy (Hall, 1904; Rotundo, 1993). Changes in the labor market, youth labor force participation, and educational institutions created new opportunities for adolescent interaction and culture, which now existed in part beyond adult supervision. This lack of control aroused general concern about what young people were capable of doing and the trouble they were capable of causing (Getis, 1998).

The A.R.R.L. responded by adopting the language and methods of social reformers, who argued that, with a little guidance, adolescents could channel their new energy and freedom from the constraints of the labor market into opportunities for personal growth and improvement. Supervised playgrounds, the Boy Scouts, and the YMCA were either established or transformed during the first decades of the twentieth century to provide such positive opportunities for successful development (Cavallo, 1981; MacLeod, 1982). The A.R.R.L. adopted a similar set of initiatives (some in direct collaboration with the Boy Scouts and the YMCA) intended to channel and reframe the activities of young wireless hobbyists into more positive and productive pursuits, while at the same time creating new and distinct categories of the wireless participant that would not threaten the image of more responsible operators.

The roles of social boundaries are particularly important in hobbies and leisure activities. In most cases, however, these boundaries are thought to occur more or less naturally by virtue of a division of labor or natural gradation of skills or commitment, to serve some functional benefit for the hobbyists themselves, or to locate the hobby vis-à-vis related activities (Gelber, 1999; Stebbins, 1992). Stebbins (1992, 2007) explains how boundaries exist between "serious leisure" and other non-work activities based on the specialized skills involved and the sustained, career-like nature of skill development and implementation in leisure pursuits. According to this definition, hobbyists themselves sort themselves out into categories based on their aptitude, level of commitment, and duration of participation. However, leisure pursuits are viewed by participants and often the general public as legitimate because they resemble paid labor in many important ways and reinforce values of hard work and commitment (Gelber, 1999).

Within the category of serious leisure, Stebbins defines amateurism as a special category of leisure activity related to, but distinct from, professional producers of the

same good or service and publics who consume them. It is here that boundaries play a key role in defining who can lay claim to particular practices, and the conditions under which others may come into contact with them. Amateur wireless operators occupy this category. While they perform many of the same tasks as “professional” radio operators and communications specialists, they remain restricted to certain wavelengths and operate under strict governmental control. They do, however, perform valuable services to the public, particularly in times of crisis or during disasters. In the case of both serious leisure and amateur participants, boundaries are perceived as naturally occurring as a result of participants’ orientation to the activity, or the definition imposed by some external stakeholder (Butsch, 1998).

In some cases, the boundaries that exist between categories of actors are created and communicated actively, and constructed as real by internal constituents. Often, amateur hobbyists must construct themselves and their social roles in order to be recognized by stakeholders, attract participants, or to legitimate their activities in the eyes of the public (Gelber, 1999). As the case of amateur radio demonstrates, the categories of actors involved in a set of activities need to be coherent, inter-related, and widely understood for them to be meaningful. Similar to sociological descriptions of the professions, “serious” amateurs must lay claim to a particular set of activities, define how they are approached and why they are valuable, and establish an organized system to bring enthusiasts together and coordinate activities (Abbot, 1988).

Wireless enthusiasts were threatened with restriction, marginalization, or even extinction because of the destructive actions of a small minority of their members. Although it was difficult to discern who comprised these malicious amateurs, in the eyes of the media and others, they were most certainly out of control and immature “boys” who used the technology to indulge destructive impulses and play pranks on important adult institutions, including commerce and the military.

Responsible amateurs, through the newly formed A.R.R.L. and its monthly magazine *QST*, and in more public debates and policy discussions about the future of wireless, responded by emphasizing the “seriousness” of the hobby for individuals and society by highlighting the value of the hobby to the development of morals in boys, and the value performed by older, more experienced and responsible hobbyists to the public welfare and even the emerging commercial broadcasting industry.

Creating Categories of Amateur Participants

The challenge facing amateur hobbyists was great, not simply because they received negative attention in the press, but because all amateur operators were defined as young and irresponsible. The A.R.R.L. responded to this challenge by painting a more nuanced picture of who was involved in wireless, differentiating among various groups involved in it and the various uses to which amateur wireless could be put. First and foremost, this involved separating the pranksters and

troublemakers from more responsible operators on the airwaves for pleasure and camaraderie. The A.R.R.L. began by focusing negative attention on rogue amateurs. In 1916, for example, the A.R.R.L. began publishing a list of amateurs who violated the Radio Act of 1912 and the nature of their transgressions. This list reinforced the new codes of conduct governing amateurs by highlighting those in violation of them. It also represented a crucial mechanism through which amateur identities were communicated to constituents and unified responsible amateur hobbyists around a common identity (Hsu & Hannan, 2005). Shortly after the A.R.R.L. list appeared, the Radio Division of the U.S. Department of Commerce adopted this same practice, with the list of violators and their violations collected from a district manager who typically staffed from the ranks of the A.R.R.L. (DeSoto, 1936).

The A.R.R.L. also created a distinct role for the "boy" and other beginning amateurs who received criticism in the media, but who accounted for both a significant number of amateur operators and much of the enthusiasm surrounding the amateur movement. While they felt the need to rein in the younger and less experienced enthusiasts in their midst, they could not alienate them from the hobby altogether. They responded to these demands by creating new distinctions among amateur hobbyists, and creating a new niche for younger, less experienced amateurs. Instead of chastising younger amateurs, some in the A.R.R.L. were willing to "extend the glad hand of fellowship . . . To the little boy who is well behaved after nine p.m. [when most amateurs were on the air]. All of us were once little boys ourselves, many of us are little boys yet" ("The Little Boy," 1917, p. 27).

The A.R.R.L. pursued this shift in the treatment of younger amateurs in a structured way, embraced and encouraged their participation but under the affiliation and supervision of the A.R.R.L. In considering the future of amateur radio, Hiram Percy Maxim, president of the A.R.R.L., realized that "amateur radio station owners and experimenters are in many cases young men who have not yet been in contact with the affairs of the world. It is difficult for them to realize the supreme importance of organization, and that little modicum of unselfishness that is necessary in order to bring about the perfect organization" (Maxim, 1919, p. 3). To combat this perception and the assumptions of immaturity and aimlessness that went along with it, the A.R.R.L. established a column in its monthly newsletter called "The Junior Operator" devoted to "the benefit of the less advanced experimenter to whom many features which the older relay birds regard as known by everyone may not be known at all." ("The Junior Operator," 1919). The Junior Operator offered non-technical articles on the construction and operation of simple radio apparatuses to a narrow audience. According to column author Entwistle, The Junior Operator served the "purpose of helping the novice over the rough spots that always confront the amateur in his first stages of radio . . . It is assumed that the reader is from 10 to 18 years of age and is attending school but has no working knowledge of mathematics" (Entwistle, 1919, p. 38).

In addition to recognizing differences in their ranks and catering more directly to the interests of younger and less experienced operators, A.R.R.L. leaders tried to persuade older and more experienced wireless enthusiasts to embrace younger

users, or at least to tolerate their existence. In a three-page September 1920 editorial, League president Maxim noted “the tendency for the experienced amateur to detach himself from the inexperienced amateur” (Maxim, 1920, p. 19). In noting these differences by age and experience, the A.R.R.L. hoped to create meaningful distinctions between organized and productive activities of amateur hobbyists engaged in wireless for the public good, and those of boy hobbyists.

Communicating Categories to Various Publics

By 1921, when commercial broadcasting was in its infancy, A.R.R.L. leadership was trying not only to create opportunities for younger, less experienced amateurs, but also to build an image of the rest of the membership that was distinct from novice operators in terms of its usefulness and its seriousness. A July, 1921 editorial promoting the new notion of “citizen wireless” noted that “we are trying to get away from the idea that our radio is a plaything, and establish before the general public the fact that *serious* communication is being accomplished by private citizens When we speak of ‘citizen wireless’ we convey a picture—no longer of little boys in short trousers playing with toys . . . but a vast field in which the private citizen of this country may enter and carry on useful communication” (“What We Want,” 1921, p. 33, Emphasis added.) This new image did not appear *de novo*, but instead occurred during the evolution of amateur radio. As the A.R.R.L. noted in the January 1922 *QST* (“The Herbert Hoover Cup,” 1922, p. 25), “Amateur radio has grown from a few small boys to one of the great institutions of the land.” In April 1922, they reiterated the symbiotic relationship between beginner and advanced operators, noting their differences: “We have a new term in radio nomenclature: novice, meaning one of the beginners in the fascinating game of wireless attracted by the phone broadcasts, as distinguished from the old time *amateur* . . . a differentiating word is a good thing to have and it will do as well as any . . . we would like for you to know when you hear our dots and dashes that it isn’t ‘the American small boy’ playing around, but an organization of thousands of young men who are about a more or less *serious* business, engaged in mastering a complex art” (“A Word” 1922, p. 38; Emphasis added).

In addition to the internal efforts to differentiate amateurs among themselves, Maxim and other A.R.R.L. representatives began to document the usefulness and responsibility of the amateur operator in more public arenas. Responding to a Navy proposal to restrict amateur transmissions of music and other related content, Maxim publicized the public service aspects of amateur work in a news release in early 1922. The amateurs’ transmissions of “general messages,” he argued, “have been developed into a service of great value to the public” (“Amateur Wireless a Boon,” 1922, p. 20). Maxim went on to describe the role of amateur operators in recovering stolen cars, warning drivers of impending floods, and helping a lost pilot land a mail plane. He elaborated on this message in a speech to the New York Electrical Society, in which he called the “amateur radio operator a great national asset,” and noted

that 4,000 amateurs enlisted in the Army at the outbreak of the World War I, not only serving the country, but also saving it money because of their previous training in wireless. ("Praises Radio Amateurs," 1922) Shortly thereafter, Maxim carried this message to the first National Radio Conference, where the foundations for important radio legislation were laid (U.S. Department of Commerce, 1922)

The National Radio Conferences were the first serious discussions about the future of the nascent broadcasting industry, and they brought together legislators and representatives from industry, the government, and amateurs. The amateurs' inclusion is indicative of the legitimacy with which they were viewed in the years following World War I. Their treatment at the Radio Conferences provided further proof of their success in reframing themselves and their activities. Of the 21 representatives invited to testify at the first National Radio Conference, 3 were from the A.R.R.L. (U.S. Department of Commerce, 1922). The conferences gave amateur hobbyists the opportunity to project their new identity to a wider and more influential audience. K. B. Warner, the secretary of the A.R.R.L., lamented the "publicity that has that has been circulating regarding the amateur wherein the amateur is without exception spoken of as a 'small boy' who should be 'curbed' . . . some of these statements are propaganda of the lowest type" (U.S. Department of Commerce, 1922, p. 72). The A.R.R.L.'s Paul Godley mirrored these statements, and reported that the A.R.R.L. membership has "formed the opinion that certain interests are anxious to try and do them out of what they felt was rightfully theirs" (U.S. Department of Commerce, 1922, p. 58). He told the Conference participants that "amateurs feel that they have done a great deal in pointing out the lines along which development [of radio] might be expected, and they feel that they have done a great deal in the way of protecting the interests of the general public in so far as they have managed in the past to prevent a monopoly of the air either by government or commercial agencies" (U.S. Department of Commerce, 1922, p. 58).

The conferences themselves represented the dramatically changing attitude toward amateurs. The rhetoric from some commercial and government representatives communicated that boys still were considered to be the prototypical amateur broadcaster. Yet, in his opening address to the first National Radio Conference, Secretary of Commerce Herbert Hoover twice referred to amateurs as a group consisting of "the American boy," which he meant as an overwhelmingly positive comment. Indeed, the primary goal of the conference was, Hoover argued, "to accommodate the most proper demands [of the commercial industry] and at the same time to protect that precious thing—the American small boy, to whom so much of this rapid expansion of interest [in radio] is due" (U.S. Department of Commerce, 1922, p. 4). Later in the conference, Hoover reiterated this stance: "the whole sense of this conference has been to protect and encourage the amateur in every possible direction and I would think that every remark made by every member of this Conference has expressed the solicitude they felt for the vast educational encouragement of the amateur" (U.S. Department of Commerce, 1922, p. 59).

Representatives from commercial broadcasting organizations took the same stance towards amateurs in much of their testimony. Of the 15 conference participations

from commercial broadcasting organizations, no fewer than 6 stated their support for amateur radio and urged protection of their wavelengths. According to J. W. Elwood, Secretary of RCA, "The Radio Corporation believes strongly that the amateur, having vastly aided in the past and being the hope and promise of the future in the development of radio, should be recognized and encouraged . . . [any rule regulate radio should include a provision devoted to] the protection of the amateur in recognition of what he has done and what he can do in the future" (U.S. Department of Commerce, 1922, p. 30). Several others agreed, and urged that "we have to take care of the amateur" in the assignment of wavelengths (U.S. Department of Commerce, 1922, p. 50). The justifications for such protection, even from the companies who potentially could benefit from access to more wavelengths, was rooted in a major argument that the A.R.R.L. recently put forward in their discussions among themselves and in more general outlets regarding the usefulness and importance of the amateur.

The major use for amateur wireless pushed by the A.R.R.L. in their efforts to reframe amateur wireless and operators was that of public service. Much of this strategy was cultivated in collaboration with the Boy Scouts, whose representative to the Conference explained this use of amateur wireless: "We have another purpose in mind [for amateur operators], that if the country should have another emergency we will be able to say to the Navy, 'Here are a thousand or two thousand scouts we have brought up to proficiency, now perhaps you can take these'" (U.S. Department of Commerce, 1922, p. 121). The success of this push was reflected in the testimony of H. F. Breckel of the Precision Equipment Company, owner of a commercial broadcasting station in Cincinnati. He argued that "the amateur radio enthusiast should be encouraged to continue the useful work he so much enjoys and that a band of wavelengths should be provided to enable him to carry out all experimental work undertaken . . . The fact should not be overlooked that in the thousands of amateurs throughout the United States the Government has available a force of no mean consequence for use in a national emergency." (U.S. Department of Commerce, 1922, p. 107).

The press, for its part, became swept up in the new and heroic vision of the amateur communicated by the A.R.R.L. By 1922, shortly after the first National Radio Conference, a series of articles appeared in the *New York Times* celebrating the achievements of amateur hobbyists, and marveling at their technical proficiency. Instead of chastising amateurs and belittling their activities as "child's play," newspaper coverage now described "new radio marvels" and the "wonders of radio" that captivated the general public ("New Radio Marvels," 1922; "Radio Exposition Crowded," 1922). Coverage also shifted away from the destructive actions of amateurs towards accomplishments and achievements of amateurs. The A.R.R.L. sponsored transatlantic tests and contests, in no small measure to attract attention to its members' abilities, with apparent success. In 1922 alone, at least six *New York Times* articles appeared covering amateur distance records, including U.S. operators whose signals were heard as far away as New Zealand ("Radio's Great Tomorrow," 1922). One December 1922 transmission, from a Los Angeles

operator that was picked up in France, represented "another international record for the American Amateur Radiograph," and was "the single greatest achievement recorded" during the A.R.R.L. sponsored tests ("Sets New Record in Radio," 1922). The overall shift in the treatment of amateur operators in terms of the media's description of the operators and the tone taken towards them was summed up most tellingly, perhaps, in an article from December 24, 1922 covering a radio exposition declaring that "the show has demonstrated the growing number of amateurs among elderly men. Among the home-made sets are many built by middle-aged business and professional men" ("Radio Exposition Crowded," 1922). Of course, "middle-aged" men had been involved in amateur radio since its inception, and were responsible for the founding of the A.R.R.L. and other accomplishments. However, this new awareness of them by the media reflects the new legitimacy with which they operated.

The new legitimacy that amateur operators enjoyed was reflected in their treatment at the future National Radio Conferences and in the first piece of meaningful legislation regulating the radio broadcasting industry. In his opening remarks at the Third National Radio Conference, Hoover repeated his affection for amateur hobbyists. He stated

we [have not] overlooked in these previous conferences the voice or interest of the amateur, embracing as he does that most beloved party in the United States—the American Boy. He is represented at this conference, and we must have a peculiar affection for his rights and interests. I know nothing that has contributed more to sane joy and definite instruction than has radio. Through it the American boy today knows more about electricity and its usefulness than all of the grown-ups of the last generation. I have during the past year somewhat extended this wave band. (U.S. Department of Commerce, 1924, p. 8)

Indeed, Hoover raised the amateur band from 200 meters to 275 meters for certain, more advanced amateur operators. In addition, the Radio Act protected amateur wavelengths even as it ushered in the predominantly commercial form of broadcasting that prevailed (U.S. House of Representatives, 1927).

Conclusion

This article demonstrated how amateur radio operators, through mobilization and concerted efforts, created categories of wireless users distinguished by their age and experience level. Most amateur histories emphasize amateurs' technological and conceptual contributions to the commercial broadcasting industry that they preceded (DeSoto, 1936). However, they first had to overcome the pervasive "boy problem" in wireless. While the popular press and government had characterized typical amateur operators as immature and malicious, the more responsible and benevolent amateurs in the A.R.R.L. emphasized the personal and social benefits of wireless, and tapped into a growing effort on the part of social reformers to

construct and control youth culture in the early twentieth century by outlining a more finely grained series of life-course transitions between childhood and adult. By creating social boundaries among amateur enthusiasts of different skill levels, and highlighting the developmental benefits for boys of guided wireless participation, leaders in the field of amateur wireless gave coherence to the amateur movement and legitimacy to its members.

Future research should investigate the degree to which the typecasting of amateurs—particularly the malicious ones—as boys was an accurate portrayal, or simply a rhetorical maneuver to marginalize an emergent subculture. Detailed amateur license lists were maintained by the Department of Commerce, and licenses could be matched to census records to discern the actual composition of licensed amateurs. Further, both the A.R.R.L. and the Department of Commerce published lists of those who operated in violation of federal regulations. Again, research could uncover exactly who was responsible for the negative behavior associated with so many amateurs. In addition, research is needed on the degree to which more casual amateur hobbyists in the 1910s laid the groundwork for commercial listening in the 1920s. Their knowledge of the technology and exposure to early broadcasting applications may have made them important bridges between the somewhat marginal and esoteric hobby and the mass-cultural industry that emerged out of it.

The social and economic changes that led to an upheaval of age norms for young people also caused a cultural reconceptualization of leisure time (Gelber, 1999). Amateur hobbyists, whose numbers grew tremendously in the first decades of the twentieth century, helped to shape culturally acceptable notions of leisure activities as not only pleasurable, but productive, educational, and valuable. In drawing on the variegated nature of free time and leisure, particularly as social reformers were making sense of it, leaders of amateur enthusiasts were able to carve out space for virtually all amateurs and the range of their activities that thrive still today.

Note

¹Links to several of these articles are provided on Thomas H. White's outstanding Web site devoted to early radio history: www.earlyradiohistory.us

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