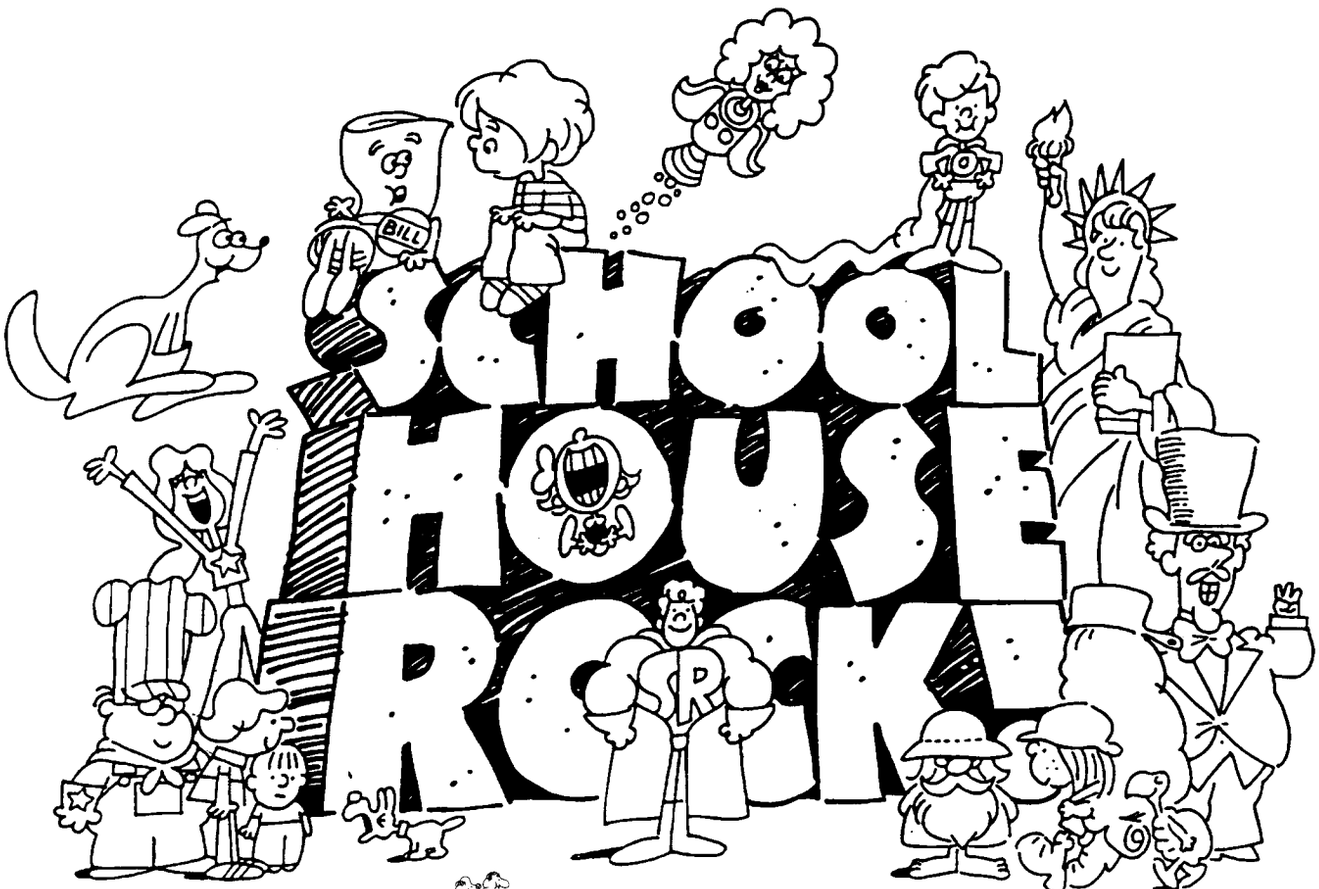


By ERIKA ENGSTROM

Cartoons as Education

ABC-sponsored *Schoolhouse Rock* is a well-remembered and loved part of American television culture.

The Saturday morning cartoon, an American tradition now into its fourth decade, serves as baby-sitter, entertainer, and money-maker. Prosocial messages, such as helping behavior and life lessons, appear in such programming (Poulos, Harvey, and Liebert). Embedded in weekend cartoons during the 1970s and early 1980s was one cartoon specifically designed to teach child viewers other lessons, ones traditionally taught in school. The marriage of entertainment and education as it existed in the cartoon essentially exemplified all that can be good in the world of television animation. Short (only three minutes in length), animated, and entertaining, it starred colonists, train engineers, and pieces of paper. They sang about freedom, the parts of speech, and the process of government.

Their medium, *Schoolhouse Rock* (hereinafter referred to as *Rock*), aired as programming inserts on the ABC network from 1973 to 1985. Millions of American children were exposed every Saturday morning to the images and lyrics of mini school lessons covering English grammar, American history and civics, mathematics, and science. During its time off the air, ABC received feedback from viewers inquiring about *Rock*'s fate. Some seven years after its cancellation, the program returned to the air, not as syndicated reruns, but on its original network.

Clearly, the series made an impression on a cohort of viewers—and the network. Examined here are the beginnings of *Rock*, the premise behind it, the reasons for its popularity, and its past and future impact on American popular culture.

The History of *Schoolhouse Rock*

Pressure on the broadcasting industry during the early 1970s by groups such as Action for Children's Television (ACT) eventually led to self-policing action by the networks. Advertising time during the "children's hour"—weekend mornings—was reduced. Educational consultants were retained, new formats were explored (Woolery, Part 2 xxiv). By 1974, the Federal Communications Commission (FCC) established guidelines specifically designed to improve children's programming: a "reasonable amount" of children's programming, of which a significant part had to be educational in nature, was required; the programming could not be limited to weekend time slots; and program hosts were not to be used as salesmen (Woolery, Part 2 xxiv).

The lobbying efforts of ACT during the 1970s also spurred the addition of more informational programs that targeted children, shows such as *30 Minutes* on CBS and *Afterschool Specials* on ABC (Zoglin 52). ABC had even cut its weekend advertising time by 20 percent (Stone, *Broadcasting* 10). Before the 1974 FCC guidelines went into effect, CBS was filling in part of its commercial time with educational inserts, such as *In the Know*, a news update for children under 12 years of age that began airing in 1970. Because the cartoon was still the number-one revenue maker on Saturday mornings, networks devised a way to meet FCC guidelines without having to give up too much time to new programming. Thus, informational inserts modeled after *In the Know* began to appear: "It was hoped that the introduction of such service items would quiet critics, entertain children, and maybe do a little good" (Grossman 274). It was in this mood of creating "good" things for children that *Schoolhouse Rock* was created.

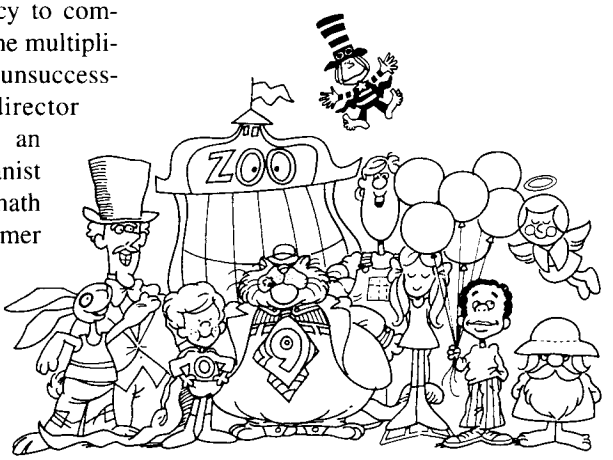
The story of the program's genesis, now almost legendary in the broadcasting industry, is one touched with the good fortune of being conceived by someone with connections to the broadcasting industry. In 1970, the chairman of the New York–based advertising agency McCaffrey & McCall took his 11-year-old son on a camping trip to the Rocky Mountains. Riding horseback on the mountain trails, the son kept himself entertained by singing popular songs by groups such as the Rolling Stones and the Beatles. The father, David McCall, noticed his son was very good at remembering the lyrics to the songs. This made McCall think about his son's trouble with remembering his multiplication tables (Stone, *Broadcasting* 10; Moore 6C). If kids can remember lyrics to rock songs, why not write songs about the times tables? McCall had hit upon an advertising staple, the jingle—the practice of using music to communicate advertising copy and enhance memory (Yalch).

The idea of using advertising techniques to aid in teaching became a reality once McCall got back to New York. There he commissioned the music experts at the agency to compose rock songs based on the multiplication tables. After a few unsuccessful tries, co-creative director George Newall suggested an independent composer-pianist for the job of creating the math songs: Bob Dorough, a former math teacher (Stone, telephone interview 1992). The jazz community knew Dorough through his songwriting.

Pedagogical advice came from the Bank Street College of Education in New York, where Dorough's first two songs were taken to be tested, with success (Stone, Schoolhouse 10). The project was further enhanced by the other member of the creative directorship, Tom Yohe, who explored the visuals of the project. Yohe sketched out a storyboard for one of the songs, "Three is a Magic Number." He would later become the executive producer of the series.

The song and storyboard were presented to McCaffrey & McCall's client ABC Television, which was represented by several executives, including one Michael Eisner, the network head of children's programming (Stone, Schoolhouse 10). Eisner ordered a pilot, and told the *New York Times*: "Through music and animation, we will teach six- and seven-year-olds how to multiply; we'll teach them about civics" (Grossman 274).

In 1972, ABC premiered that pilot, which also served as the springboard for *Multiplication Rock*, the series' title. The three-minute animated segments began airing as a staple during children's programming in January 1973. *Multiplication Rock*'s repertoire grew: "Two, Elementary, My Dear" showed Noah putting two animals at a time on the ark; "Five, Ready or Not, Here I Come" taught children how to count off by fives; and "I've Got Six" set to a Motown groove the multiplication tables up to 6 times 12. "Figure Eight," set to a delicate ballad, used ice skating as a motif. At the end of the segment, a figure eight skated by a young girl is placed on its side, "a symbol for infinity."



Three-minute segments of *Multiplication Rock* began airing as a staple program in 1973.

The animators for the series also worked as artists in advertising. The people involved in the songwriting and performance of *Rock* episodes were full-time musicians, and included jazz artists such as drummer Grady Tate, who had appeared on *The Tonight Show* (Woolery, Part 2). Composer Lynn Ahrens wrote the music for sev-

eral of the U.S. history segments, including the segment on the Preamble to the Constitution (Stone, telephone interview 1992).

In 1973, under the grouping *Grammar Rock, Rock* expanded to include a series of animated music videos on language skills. Those included perhaps the most popular and best remembered segment, titled "Conjunction Junction," which featured a train engineer hooking up boxcars portraying the conjunctions *and*, *but*, *or*, and *nor*. Handel's "Hallelujah" chorus served as the musical theme for "Interjections," which illustrated how interjections "show excitement or emotion." In other parts-of-speech videos, adverbs served as the stock-on-hand at a store called Lolly's in "Lolly, Lolly, Lolly, Adverbs Here." In "Unpack Your Adjectives," a young camper and her companion, a turtle, took adjectives out of their backpack to describe their trip.

***Grammar Rock* was named outstanding program in 1976.**

During the mid-1970s, children's programming executives at ABC again expanded the *Rock* curriculum to include lessons in U.S. government and history (Stone, Schoolhouse 10; Grossman; Rushnell). Categorized under the grouping *American Rock*, these included one of the more well-known segments, "I'm Just a Bill," which tracked the life of a bill "sitting on Capitol Hill," waiting to become law. "Sufferin' Till Suffrage" depicted the women's suffrage movement, which culminated in the Nineteenth Amendment, an act that "struck down that restrictive rule" which forbade women to vote.

The circumstances of the American Revolution portrayed in "No More Kings" included a cartoon version of the Boston Tea Party, animated as a giant cup of tea. *Rock*'s animators caricatured King George III as an uncaring tyrant with rouged cheeks who giggled gleefully at the tax money he collected from the colonists. "The Shot Heard 'Round the World" served as a three-minute account of the Revolutionary War, complete with the immortal words of Colonel Prescott, who told his men not to shoot at the enemy until they saw "the whites of their eyes."

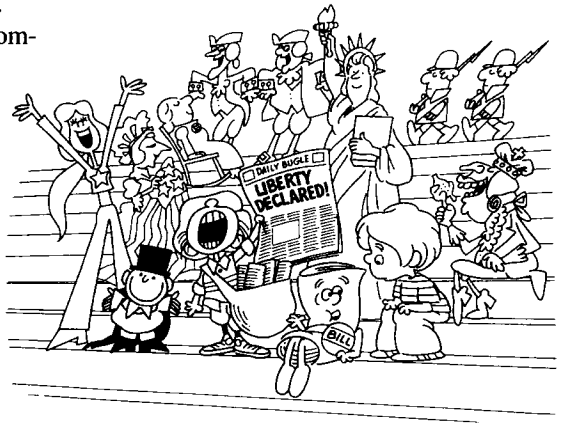
Science Rock and *Body Rock* followed in 1978. They included segments on the various human systems, such as skeletal, circulatory, and nervous, and scientific phenomena such as gravity, the weather, and electricity. *Body Rock* included health and nutritional spots on proper tooth brushing, tips for a healthy breakfast, and substitutes for junk food (Grossman).

Rock also incorporated the computer age toward the end of its run, with *Computer Rock* rounding out the program's five categories. One segment, "Mr. Chips and Scooter Computer," showed how computers make almost-impossible mathematical tasks easy and depicted how easily computers calculate baseball statistics. *Computer Rock* aimed to ease computer apprehension, but it was not as successful as the other *Rock* categories, according to Radford Stone, co-producer of *Rock* and executive vice president of Scholastic Rock, Inc. He speculates it might have been because computers did not constitute a specific discipline as did the other topics portrayed in the series (telephone interview 1992).

The broadcast industry recognized the educational and prosocial service provided by the series. *Rock*'s producers won four Emmy Awards for outstanding achievement in children's informational/instructional programming. *Grammar Rock* was named the outstanding program in 1976 (the first Emmy to be won by an advertising agency), as was *Science Rock* in 1979, and the umbrella *Schoolhouse Rock* in 1978 and 1980 (Stone, Schoolhouse Rock 10; Steinberg; Woolery, Part 2; McNeil). During its run, *Rock* received more than two dozen awards, including two from ACT (Stone, Schoolhouse 10).

According to Squire Rushnell, vice president for children's entertainment at ABC during the 1970s and 1980s, *Rock* enjoyed high ratings during its run, mainly because the programs that featured them were popular and "kids generally hung in" for the *Rock* segments. The segments aired five times on Saturday mornings and twice on Sunday mornings. Eventually they made up a full half-hour of programming per week (Rushnell).

ABC considered the *Rock* series as short-form, "evergreen" programming that could be aired for long periods of time, according to Cormac Wiberley, ABC's children's entertainment head during the time of *Rock*'s return in 1992. But by the mid-1980s, the network decided it was time "to do something fresh" and considered newly developed inserts on physical fitness starring the popular gymnast Mary Lou Retton (Rushnell). There was also



The well-known segments "I'm just a Bill" and "Sufferin' Till Suffrage" are part of *American Rock*.

a "small dispute" with *Rock*'s production company in 1985 (Rushnell).

The demise of *Rock* coincided with Ronald Reagan's "marketplace approach" to broadcast regulation, which for children's programming meant that broadcast stations no longer were required to program content for children (Kunkel 186; Rushnell). Many children's programs were either canceled or scaled back (Zoglin). By the end of 1984, "virtually all of the FCC's children's television policies had effectively been removed" (Kunkel 187). Essentially, according to Squire Rushnell, "nobody cared about children's programming." With "no one pressing from Washington," and no increase in income from segment sponsors, ABC decided to cancel *Rock* in 1985 (Rushnell).

During its run, *Schoolhouse Rock* won over two dozen awards.

During the seven years it was off the air, the network received constant feedback from the public. Former viewers, who grew up to become college students and parents of young children, made the most inquiries. In June 1992, ABC announced at its affiliates' meeting in Los Angeles that *Rock* would return to the network's Saturday morning lineup, following the *Bugs Bunny & Tweety Show* (American Broadcasting Company, Schoolhouse). According to Cynthia Barrett, assistant to the director for *Afterschool Specials* at ABC during *Rock*'s return, the official reasons for the show's return were its value as an educational tool and its popularity. The feedback from the affiliates was "positive" (Wiberley).

Little fanfare accompanied the series' resurrection that year, due to the small budget allotted to children's programming. "Audience research" consisted of all the old *Rock* episodes being screened by people at the network, with 26 episodes chosen to be repeated (Wiberley). This time, only one *Rock* episode would be run each Saturday morning. No formal research was conducted to test the airability of the spots. Wiberley, a former *Rock* viewer himself, commented: "I just hope this new generation of kids doesn't turn the channel." As of mid-1994, *Rock* was "doing well" (Gaither), and new episodes were commissioned. New installments were created one at a time, depending on the quality of the song designed for each lesson.

Incidentally, all the old *Rock* archives are gone. The originators eventually left McCaffrey & McCall for one reason or another, and the lead sheets, contracts with singers, and other original material have "disappeared" (Stone, telephone interview 1992).

The Lessons of *Rock*

Rock's premise consisted of the simple notion that music enhances learning. Studies involving children demonstrate the effectiveness of music as an attention getter and mnemonic device (Nicholson; Gingold; Chazin and Neuschatz; Scruggs and Brigham). For example, Nicholson found that when letters of the alphabet were connected to musical pitch, recognition was enhanced among slow-learning children. In addition, several experiments have concluded that learning is enhanced when new information is presented in song (Chazin and Neuschatz; Gingold). Wakshlag, Reitz, and Zillmann showed that the children in their study liked music with a fast, marked tempo, clear, distinct rhythms, and repetitive melodies, which led the researchers to suggest such music may invite learning and might more easily be learned.

Such techniques are apparent in *Rock* songs. Repetitive melodies are used extensively, and lyrics are repeated in short, easy-to-remember phrases. Matching visuals are simple and strong, with words such as WOW, OUCH, and EEK in "Interjections" and ELECTRICITY in "Electricity" illustrated in large, colorful letters.

Recent studies seem to confirm the effectiveness of techniques similar to those used in *Rock*. Blosser and Roberts used the program itself when they examined the ability of four to 11 year olds to distinguish among four television-programming genres and comprehend the information presented in each. Children viewed excerpts from a network news story, a commercial, a public service announcement, and an informational/educational spot: the "Interjections" episode from *Grammar Rock*. Though very few children could identify the excerpt as being an educational message (due to its unfamiliar label, as opposed to "news" or "commercial"), they comprehended the narrative content contained in the spot extremely well. The *Rock* excerpt and the public service announcement ranked as the two best understood messages among that study's children.

Schoolhouse Rock's premise consists of the simple notion that music enhances learning.

Although little academic research concerning *Rock* exists, anecdotal

accounts, for the most part, illustrate its effectiveness as an electronic educator. *Rock*'s producers describe many personal encounters with the program's fans. For instance, co-producer Radford Stone was enjoying a day at the beach when he heard a teenager singing the words to the Preamble to the Constitution from one of the early programs (telephone interview 1992). Students from Dartmouth College, putting together their annual Senior Symposium in 1990, tracked down and invited executive producer Tom Yohe to their program (American Broadcasting Company, ABC's). When Yohe played a video of "Conjunction Junction," 900 students in the audience started singing along. The "I'm Just A Bill" episode has been used by teachers and various Washington, D.C., agencies to educate staffers

on how a bill becomes law (Rushnell). A young copywriter from Canada attributed her success at passing her U.S. citizenship examination to watching segments of *American Rock* (Moore). A junior high school teacher, curious about a "mysterious murmur" coming from one of her students during a test, found that the student had been humming the *Rock* song to the Preamble to the Constitution as a mnemonic device during the test (Rushnell).

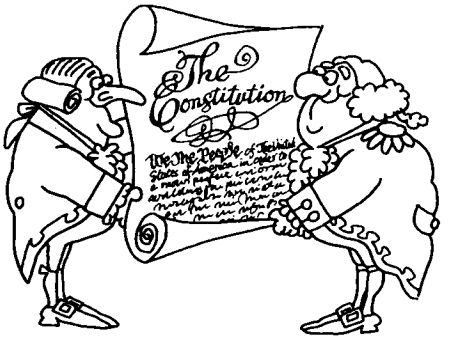
Some 20 years later, little more than the mention of the words *Schoolhouse Rock* can evoke memories from members of the original viewing cohort, who often can sing various songs and describe images from *Rock* segments. Accounts that I have gathered informally illustrate remarkable specificity. For example, a 32-year-old woman from Kentucky recalls singing *Rock* songs during recess in elementary school, especially "Lolly, Lolly, Lolly, Adverbs Here." A 29-year-old Nevada woman remembers singing the Preamble and "Conjunction Junction" along with same-age co-workers backstage during her show business career. A 25-year-old woman from Iceland, who arrived in the United States in 1979, recalls learning English from *Grammar Rock* episodes while watching cartoons on Saturday mornings.

Rock's appeal extends beyond the memorability of the songs; many of the visuals that accompanied the songs were indelibly implanted in viewers' minds. For instance, a 31-year-old man who grew up in Utah remembers the image of the figure eight from "Figure Eight," notably that when the figure was turned on its side, it became the symbol for infinity. A twenty-something college student, who grew up during the tail end of *Rock*'s original run, remembers an "envelope" singing and dancing; he was not far off—the bill on Capitol Hill, the star of "I'm Just a Bill," was a rolled-up piece of paper.

Even the network executives working on the series' comeback who were part of the original cohort of viewers remember *Rock*. A former supervisor for children's entertainment at ABC, Lee Kyle Gaither, is African American, and recalls being impressed with "I've Got Six," an episode that set the six-times tables to rock 'n' roll music, because the main character was an African American boy. The wide appeal of the series can be attributed to the variety of ethnic backgrounds of *Rock* characters; "Different types of kids respond to them" (Gaither).

The Return of *Rock*

Rock's revival at ABC in the early 1990s included the commissioning of three new segments, plus a whole new category, informally named *Money Rock*. According to George Newall, one of *Rock*'s creators, ABC did not want a "modern" version of *Rock*: "When ABC came back to us, we said, Well, you know, do you want it to be 'Schoolhouse Rap'? And they said No, we want it to be what it used to be"



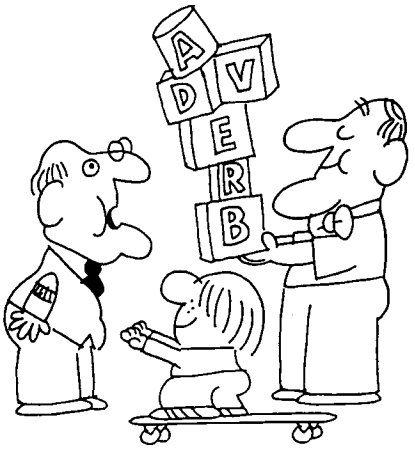
(*Week in Rock*). Newall, McCall, Stone, and Yohe formed a subsidiary of parent agency Scholastic Rock to create the new segments, animated by J. J. Sedelmaier Productions in White Plains, New York. Sedelmaier's credits include animation for NBC's *Saturday Night Live* and the first season of *Beavis and Butt-head* (Quy).

Created one at a time, depending on the quality of the song, the new *Money Rock* segments teach children about finance and how to manage their money. They include "Dollars and Sense," "Where the Money Goes," "Tax Man Max," and "Seven-Fifty a Week" (Stone, telephone interview 1995). Other segments developed during *Rock*'s comeback include "Busy P's," which explains prepositions, and "The Tale of Mr. Morton," a segment on the function of subjects in sentences (Quy 24; *Week in Rock*). Because the new segments run with the 41 originals, the *Rock* creative team must maintain a certain congruity between the old and new episodes, achieved through the use of *Rock*'s familiar animation style (Quy 27).

Members of the creative team who have ties to the original series also help to create a seamless transition between old and new episodes. For example, Tom Yohe Jr., whose style reflects his father's, served as one of the designers of "The Tale of Mr. Morton." On the musical side, Jack Shel-

don, the voice of the "Bill on Capitol Hill," also sings on the new segments (Quy 27).

Although animation and song styles remain true to the original *Rock*, the new segments have a "cleaner" look. Sedelmaier describes the newest installments as having "a certain crispness of color and animation," due to the use of modern technology, that allows animators to ink and color cel images digitally (Quy 27). Sedelmaier adds that technology also "speeds up the animation process by eliminating



the need for continuous redrawing" (Quy 27).

Rock fans who cannot view episodes on Saturday mornings can purchase videotapes of the series, available since the mid-1980s (Novak) through mail order, or rent them at video outlets. A CD-ROM will be available in the fall of 1995 (Stone, telephone interview 1995; *Week in Rock*).

Other incarnations of *Rock* include an off-Broadway production titled *Schoolhouse Rock*, which sparked a renewed interest in *Rock* during the summer of 1995. CNN and MTV news reports focused on the new stage version and recapped *Rock*'s origins (*Showbiz Today*; *Week in Rock*). The stage show targets the twenty- to thirty-something generation and gives those who remember *Rock* "a crash course in nostalgia" (*Showbiz Today*). *Schoolhouse Rock* first appeared on stage in Chicago and was scheduled to run in New York through September of 1995 (*Week in Rock*).

The show's cast members include young adults who remember watching *Rock* as children. They perform the most popular *Rock* songs, including the Preamble, "Interjections," "Lolly, Lolly, Lolly Adverbs Here," and "Sufferin' Till Sufferage," against simple backdrops in costumes resembling the cartoon's visual style. They even encourage audience participation during a rendition of "Five, Ready or Not, Here I Come" (*Week in Rock*). The production closes with a performance of "The Tale of Mr. Morton," which show director Scott Ferguson says illustrates *Rock*'s longevity: "I think having a new song that people don't know as the final image sort of leads to the idea that *Schoolhouse Rock* will live forever" (*Week in Rock*).

Conclusion

Schoolhouse Rock began more than two decades ago because of a father's concern for his son's ability to learn multiplication tables. Now part of American popular culture, it realizes television's "enormous potential for teaching academic, cognitive, and social skills" (Huston, Watkins, and Kunkel 425). During the 1970s and early 1980s, a large network viewing audience and high rotation of episodes (up to seven per weekend) helped *Schoolhouse Rock* teach its viewers the functions of conjunctions, the words to the Preamble to the U.S. Constitution, and that "a noun is a person, place, or thing" (Stone, telephone interview 1995; Rushnell). In short, *Rock* worked because "it was popular and people learned stuff" (Stone, telephone interview 1992).

In the 1990s, *Rock* faces several challenges to its effectiveness as an educator, including a more fragmented viewership, a lower rotation (only three episodes per weekend), preemptive programming by local stations, and a questionable future at the network (now owned by the Walt Disney Company), even with the Michael Eisner connection (Stone, telephone interview 1995). Whether or not the lessons of *Rock* stay with a new generation of viewers present new questions concerning techniques to enhance learning, as well as the merits of prosocial, educational programming in a television world where the bulk of children's viewing consists largely of "a ghetto of interchangeable cartoons" (Zoglin 52).

WORKS CITED

American Broadcasting Company. "'Schoolhouse Rock,' Series of Short Educational Programs Will Return to ABC Television Network's Saturday Lineup This Fall." Press release. New York: ABC, 1992.

———. "ABC's 'Schoolhouse Rock' Producers Tom Yohe and George Newall Talk about Phenomena and Wide-Ranging Impact." Press release. New York: ABC, 1992.

Barrett, Cynthia. Telephone interview. 21 Jan. 1993.

Blosser, Betsy J., and Donald F. Roberts. "Age Differences in Children's Perceptions of Message Intent: Responses to TV News, Commercials, Educational Spots, and PSAs." *Communication Research* 12 (1985): 455–84.

Chazin, Sharon, and Joseph S. Neuschatz. "Using a Mnemonic to Aid in the Recall of Unfamiliar Information." *Perceptual and Motor Skills* 11 (1990): 1067–71.

Gaither, Lee Kyle. Telephone interview. 20 July 1994.

Gingold, Herbert G. "Music as a Mnemonic Device: The Effect of Musical Settings on Verbatim Recall of Prose Passages by Young Children." DAI 46 (1985): 2089B.

Grossman, Gary H. *Saturday Morning TV.* New York: Dell, 1981.

Huston, Aletha C., Bruce A. Watkins, and Dale Kunkel. "Public Policy and Children's Television." *American Psychologist* 44 (1989): 424–33.

Kunkel, Dale. "Crafting Media Policy." *American Behavioral Scientist* 35 (1991): 181–202.

McNeil, Alex. *Total Television.* New York: Penguin, 1991.

Moore, Steve. "ABC Gives Short but Memorable Lessons on 'Schoolhouse Rock.'" *Las Vegas Review-Journal* 30 Apr. 1994.

Nicholson, Diana L. "Music as an Aid to Learning." *DAI* 33 (1972): 1–352A. New York University.

Novak, Ralph. "Schoolhouse Rock! History Rock." Rev. of *Schoolhouse Rock. People* 6 July 1987: 12.

Poulos, Rita W., Susan E. Harvey, and Robert M. Liebert. "Saturday Morning Television: A Profile of the 1974–75 Season." *Psychological Reports* 39 (1976): 1047–57.

Quy, Russell. "Musical Tutor." *Shoot* 28 Jan. 1994: 24–27.

Rushnell, Squire. Telephone interview. 22 Jan. 1993.
Scruggs, Thomas E., and Frederick J. Brigham. "Utility of Musical Mnemonics." *Perceptual and Motor Skills* 72 (1991): 881–82.
Showbiz Today. Cable News Network, Atlanta. 26 June 1995.
Steinberg, Cobbett. *TV Facts*. New York: Facts on File, 1985.
Stone, Radford. "'Schoolhouse Rock': Kids Are Sold on It; So Are Its Advertisers." *Broadcasting* 4 Dec. 1978: 10.
———. Telephone interview. 16 Sept. 1992.
———. Telephone interview. 15 Aug. 1995.
Wakshlag, Jacob J., Raymond J. Reitz, and Dolf Zillmann. "Selective Exposure to and Acquisition of Information from Educational Television Programs as a Function of Appeal and Tempo of Background Music." *Journal of Educational Psychology* 74 (1982): 666–77.
The Week in Rock. Prod. Jane Sangster. Music Television, New York. 5 Aug. 1995.
Wiberley, Cormac. Telephone interview. 9 Sept. 1992.
Woolery, George W. *Children's Television: The First Thirty-Five Years, 1946–1981. Part 1: Animated Cartoon Series*. Metuchen: Scarecrow, 1983.
———. *Children's Television: The First Thirty-Five Years, 1946–1981. Part 2: Live, Film, and Tape Series*. Metuchen: Scarecrow, 1985.
Yalch, Richard F. "Memory in Jingle Jungle: Music as a Mnemonic Device in Communicating Advertising Slogans." *Journal of Applied Psychology* 76 (1991): 268–75.
Zoglin, Richard. "Ms. Kidvid Calls It Quits." *TIME* 20 Jan. 1992: 52.

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