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Why Do Robots Rebel? The Labor History of a Cultural Icon

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Abstract:

This essay examines the reception and transformation of the robot, or artificial worker, from its first appearance in a play about workers' revolution in the early 1920s into a symbol of technological unemployment by the 1930s. Karel Čapek's 1920 play *R.U.R. (Rossum's Universal Robots)* told the story of hyper-efficient artificial workers that replace human workers in factories and armies across the world. When the Robots gain consciousness of their collective lot they organize a worldwide rebellion culminating in the practical extermination of humankind. A worldwide theater sensation in the early 1920s, and staple of amateur theater in the 1930s, the play spoke to widespread fears of (or hopes for) rebellion by industrial workers. Over the 1920s and 1930s, however, robot imagery became primarily mechanical following a growing concern that industrial automation was causing mass unemployment, rather than turning workers into mindless robots. This essay draws on reviews and commentary about *R.U.R.*, as well as cartoons, photographs, and other visual artifacts from mainstream, labor, and radical media.

Keywords: robots; revolution; mechanization; automation; visual culture; social imaginary; theater; Karel Čapek; labor history

Why Do Robots Rebel? The Labor History of a Cultural Icon

“Robots of the world! Many people have fallen. By seizing the factory we have become the masters of everything. The age of mankind is over. A new world has begun! The rule of Robots!”¹

So ends the climactic scene of R.U.R. (Rossum’s Universal Robots), the 1920 play that introduced the term “robot” to a world fixated on the ambiguous potential of modernity. Written by the Czech author Karel Čapek, R.U.R. has gone in and out of fashion in the 90 years since its sensational first run across the globe. But its story line has become commonplace in science fiction and popular culture. Although Fritz Lange’s industrial dystopia Metropolis is more widely known today, Čapek’s story of robot rebellion was already iconic when the German film premiered in 1927.² In the world of the play, the Rossum Corporation has perfected the manufacture of artificial workers known as “Robots,” thousands of which are produced annually at a remote island factory, making the corporation and its investors a healthy profit. Utterly lacking individuality, personal aspiration, and sexuality, the Robots eventually replace humans in

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<http://www.flickr.com/photos/higbie/sets/72157624043180852/>

¹Karel Čapek, “R.U.R. (Rossum’s Universal Robots). A Collective Drama in a Comic Prologue and Three Acts,” translated by Claudia Novack-Jones, in Peter Kussi, ed., Toward the Radical Center: a Karel Čapek Reader (Highland Park, NJ : Catbird Press, 1990), 95-96. The word “Robot” is capitalized when referring to the characters in Čapek’s play, but not in general usage.

²An early U.S. review of Metropolis noted the thematic connection between Lange’s film and Čapek’s play: “It suggests a combination of a preachment on capital and labor in a city of the future, an R.U.R. idea and something of Mrs. Shelley’s ‘Frankenstein.’” See Mordaunt Hall, “A Technical Marvel,” *New York Times* (1923-Current file), March 7, 1927.

factories, fields, and armed forces across the world. Hoping to improve the product, a corporate scientist experiments on a few hundred automatons giving them certain human-like qualities. Soon after, the Robots organize a liberation movement, mount a rebellion, and slaughter their erstwhile masters.

Sound familiar? Self-conscious and vengeful products of human technology now drive the plots of countless novels, films and television shows including Blade Runner (1982), the Terminator series (1984-2009), I, Robot (2004), and Battlestar Galactica (2003-2009) to name only a few of the more mainstream offerings. The film Star Trek: First Contact (1996) features the android Starfleet officer Data who emulates the best human attributes, and the evil queen of the "Borg" bent on assimilating humans into a hive-like collective of cyborgs. The roboticist Daniel Wilson has two popular books on the theme: the tech-humor guide How to Survive a Robot Uprising (2005) and Robocalypse (2011), a best-selling novel soon to be a film directed by Steven Spielberg. Even the fake-news site The Onion occasionally rolls out the theme of robot domination with newscasts like "Are We Giving the Robots that Run Our Society Too Much Power?" In recent years, R.U.R. itself has been released in paperback and retranslated, produced on the stage, and prepared for a film version.³

As with Čapek's Robots, the Replicants, Cylons, and Terminators of our own turn-of-the-century networked society reveal our ambivalence with the level of control we grant our technological mediators as well as anxieties about what it means to be human amidst pervasive technologies. Yet one key difference remains between today's robot characters and those of the

³"Robocalypse (2014)," entry in Internet Movie Database, <http://www.imdb.com/title/tt1541155/> accessed 21 August 2012; Onion News Network, <http://www.theonion.com/video/in-the-know-are-we-giving-the-robots-that-run-our,14200/>; See also, Flight of the Conchords, "The Robot Song," YouTube Video <http://www.youtube.com/watch?v=mvrva8NoMLM>. "R.U.R. (2014)," entry in Internet Movie Database, <http://www.imdb.com/title/tt1300594/> accessed 20 August 2012.

1920s: workers. In their first incarnation robots were clearly identified as workers and their theatrical rebellion with the strikes and revolutions taking place across the globe. Today, the experience and political economy of work, if they appear at all, are background details in robot stories replaced by the thrill of shootouts between good-guy humans and bad-guy machines.

This essay casts an eye back to the 1920s and 1930s in order to recover what the Robot meant to industrial societies as it first appeared on stage and in print. R.U.R.'s melodramatic plot made it a barometer of sentiments about class, technology, and democracy. Labor partisans usually identified with the Robots to some degree; mainstream reviewers sided with the human characters. More broadly the play created opportunities for commentary on the nature and value of modern industry, the proper distribution of cultural power, and the capacity of workers to function as democratic citizens. The Robot evoked and echoed unease with the transformation of work, the growing division between thinking and doing that accompanied scientific management, and the rise of mass cultural forms. The drive for industrial efficiency made cultural heroes out of the likes of Henry Ford, but also raised troubling questions about the impact of factory work on workers and society. Did modern factory work literally turn workers into machines? Did "machine made men" have independent will? Could democracy survive with robot-like citizens? And what kind of politics would come from people so dominated by the machine process?⁴ In the early 20th century these questions were more than academic. Across the globe industrial workers struck in unprecedented numbers demanding better pay and shorter hours, as well as workers' control of production, nationalization of industry, in a few

⁴David A. Hounshell, From the American System to Mass Production, 1800-1932 (Baltimore: Johns Hopkins University Press, 1984), 303-330; Amy Bix, Inventing ourselves out of jobs? : America's debate over technological unemployment, 1929-1981 (Baltimore Md.: Johns Hopkins University Press, 2000), 1-7; Carroll Pursell, The Machine in America: A Social History of Technology (Baltimore: Johns Hopkins University Press, 2007), pp. 229-250.

cases the abolition of the wage system. The Bolshevik Revolution, and the bloody civil war that followed, ushered onto the world stage something even more dramatic: a self-proclaimed workers' state. Capitalists met these challenges with overt repression, but also with efforts to co-opt and channel working class thought and action with employee representation plans, stock ownership and savings schemes, and the many permutations of personnel management. For labor partisans employers' sticks and carrots both robbed workers of their freedom of action and thought.⁵

In this context, Čapek's play and the figure of the "robot" became part of a wider conversation about workers' bodies and minds between the two World Wars, what Lawrence Levine called the "folklore of industrial society" and Charles Taylor dubbed the "social imaginary."⁶ Like industrial photography, cartooning, film, and public art, Čapek's theatrical robots were a way to imagine workers and the limits of democracy in the modern age. In their uniform appearance, obedience to employers, and even in rebellion, Robots reflected and shaped the popular sense that the wonders of modern life concealed a basic lack of freedom for working people.

⁵Among the many studies that touch on scientific management and welfare capitalism are Lizabeth Cohen, Making a New Deal: Industrial Workers in Chicago, 1919-1939 (Cambridge: Cambridge University Press, 1990), 159-212. Sanford Jacoby, Modern Manors: Welfare Capitalism since the New Deal (Princeton: Princeton University Press, 1997), 13-26; David Brody, Workers in Industrial Society: Essays on the 20th Century Struggle (New York: Oxford University Press, 1980), 48-81; David Montgomery, Fall of the House of Labor: the workplace, the state, and the American labor movement (Cambridge: Cambridge University Press, 1987), 9-58; Daniel Nelson, Managers and Workers: Origins of the New Factory System in the United States, 1880-1920 (Madison: University of Wisconsin Press, 1975), 55-61; Steven Meyer, Five Dollar Day: labor management and social control in the Ford Motor Company, 1908-1921 (Albany: State University of New York Press, 1981).

⁶Lawrence W. Levine, "The Folklore of Industrial Society: Popular Culture and Its Audiences." *The American Historical Review* 97, no. 5 (December 1, 1992): 1369-1399. <http://www.jstor.org/stable/2165941>; Charles Taylor, Modern Social Imaginaries (Durham: Duke University Press, 2004), 23-26.

Returning to this early history of the robot, we can see work, working people at the center of debates about technology and modernity. After reviewing R.U.R.'s plot and production history, this essay considers the play's reception by mainstream reviewers, the labor press, and in popular culture. The dialogue about the play's meaning played out prominently in newspapers, literary and labor journals. Reviews of the play, and spread of the term "robot," highlight the resonance of Čapek's themes as well as a class-conscious interpretive divide. Next I explore the way images of robots changed from the early 1920s through World War II. As the word "robot" diffused across industrial cultures, it became less directly associated with R.U.R. and more of a symbol for technology generally. In the process, some of the robot became less symbolic of worker revolt. I conclude with a discussion of more recent representations of worker-robots in television and film, and some reflections on the forgotten labor history of the robot.

Rewind: The Robot's First Decades

First staged in Prague in January 1921, R.U.R. quickly became an international sensation, resonating with widespread ambivalence about the emerging system of mass production and its cultural ramifications. The play's author, Karel Čapek, was unknown outside of his native Czechoslovakia, but was familiar to fellow Czechs as an essayist, short story writer and newspaper columnist with close ties to political leaders of their new republic. Born in 1890 in a coal-mining region of western Bohemia, Čapek grew up amidst the revival of Czech language and literature. His father was a small town doctor with a large personal library, and his mother had literary aspirations that she passed on to her three children. Čapek's maternal grandmother, described by biographers as a peasant woman with a stock of folk tales, songs, and rustic aphorisms, may have influenced his fondness for allegorical writing. Čapek suffered from ill

health most of his life. Born prematurely to a mother who was "high-strung" and "took drugs to quiet her nerves," Čapek suffered from back pains and headaches as well as "nervous excitement" and, possibly, depression. When Čapek fell in love with the much-younger actress Olga Scheinpflugová, his own father advised against marriage on health grounds.⁷ However, the two remained close friends and eventually married in 1935. Thwarted in physical love, Čapek threw himself into his work and his rich social network of Czech artists and writers.

Čapek began writing for Czech nationalist groups before he was twenty, and frequently collaborated with his brother Josef, whom he credited with coining the term "robot." One biographer labeled him a democratic humanist, emphasizing his skepticism of Communism and fascism as well as his defense of the new Czechoslovak nation.⁸ After Hitler's rise to power in 1933, Čapek wrote antifascist and antimilitarist fiction and commentary, and assisted Jewish refugees. He died in December 1938 shortly after Germany annexed the so-called Sudetenland; his brother Josef died in a German concentration camp. Čapek's work was proscribed under the German occupation, and was again out of favor with the Communist leaders of postwar Czechoslovakia, but has enjoyed renewed interest in the post-Communist era.⁹ Contemporary Czech writer Ivan Klíma places Čapek among the greatest Czech writers, along with Franz Kafka, noting, "it is thanks to Čapek that the Czech language drew closer to the language people actually spoke."¹⁰

⁷William Edward Harkins, Karel Čapek, Columbia Slavic studies (New York: Columbia University Press, 1962), 1,3,13-14; Bohuslava R. Bradbrook, Karel Čapek: In Pursuit of Truth, Tolerance, and Trust (Brighton [England]: Sussex Academic Press, 1998), 9, 11, 16.

⁸Harkins, Karel Čapek, v; Bradbrook, Karel Čapek, 2-5.

⁹Bradbrook, Karel Čapek, 18-20.

¹⁰Ivan Klíma, Karel Čapek: life and work (North Haven CT: Catbird Press, 2002), 18.

Čapek's robot play was deliberately melodramatic and satirical--full of jabs at industrialists, reformers, and radicals. R.U.R. is set in a near future at the Rossum Corporation's island factory complex. As the curtain draws back on its "comic prologue," Harry Domin, the general manager of the robot factory, sits at a large desk dictating memos to his secretary acknowledging orders for thousands of Robots.¹¹ Escorted by office staff, the young and beautiful female lead, Helena Glory, enters the scene requesting a tour of the factory. Unknown to Domin, Helena represents the "Humanity League," and she has come with the idea of liberating the Robots and giving them equality with humans. Immediately smitten, Domin counters Helena's idealism with a hard-headed business view of his product: "Robots are not people. Mechanically they are more *perfect* than we are; they have an enormously developed intelligence, but they have no soul."¹² And although he acknowledges that Robot workers create human unemployment, this is only a transitional problem, according to Domin. Within a decade Robot productivity will be so high that "there will be no poverty. All work will be done by living machines. Everybody will be free from worry and liberated from the degradation of labor. Everybody will live only to *perfect* himself."¹³

As Domin spouts rhetoric worthy of Henry Ford, other characters enter the scene to flesh out the back-story of the Robots. A company scientist, Dr. Gall, explains that the first Robots were overly simplified, had no sense of pain, and so blithely allowed their limbs to be crushed by the factory machinery. "We *must* introduce *suffering*," he concludes, to protect them from

¹¹This synopsis and my analysis are based on the English translation most widely available in the 1920s and 1930s, Karel Čapek, R.U.R. (Rossum's Universal Robots): A Fantastic Melodrama in Three Acts and an Epilogue (Translated by Paul Selver and Nigel Playfair) (New York: Doubleday, Page and Co, 1923).

¹²Čapek, R.U.R. (1923), 17.

¹³Čapek, R.U.R. (1923), 32 (emphasis in original).

damage.¹⁴ An unintended consequence of this advance is the mysterious "Robot Cramp" that occasionally causes the automatons to seize up and stop working. Once this happens, the Robot is scrapped. All of this is too much for the factory's head of construction, Alquist, who upholds the virtue of physical labor and decries science run amok. By the end of the scene, Domin has so charmed Helena that she accepts his proposal of marriage.

The play's next act takes place 10 years later. The company and its managers have been very successful, but there is a note of doom in the air. No mail or telegrams have arrived for several days. Helena and her servant read an old newspaper report about the declining human birth rate, the use of Robot armies and police against humans, and the formation of an international organization of Robot "workmen, sailors and soldiers." Hoping to stop the cycle of exploitation and violence, Helena burns the secret formula for producing Robots. The factory managers wait nervously for news from the mainland and the arrival of a gunship to take them off the island. To undo the solidarity of the Robots, Domin hatches a plan to build factories in every country that will produce "National Robots" who will hate Robots from other factories. But it is too late. The gunship arrives with a Robot crew bearing instructions for the Robots at the factory to join the rebellion and kill the humans.

The play's climax transpires as the last humans are holed up in the factory offices awaiting the Robots' final attack. Hoping to negotiate their safe passage they hit on the idea of trading away the formula only to discover that Helena has burned it. Facing sure annihilation, the characters argue over what has brought them to this point. Domin justifies himself saying he only hoped to free humankind from drudgery. Alquist mocks Domin's desire to be a superman. Helena wishes she had had children. The end comes with a great dramatic flourish as the Robots

¹⁴Čapek, R.U.R. (1923), 30.

storm the office, kill all the humans, and declare the dawn of a new era. They save only Alquist, the builder, because he works with his hands.

Ironically, at the moment of their victory the Robots face their own slow extinction because they lack the formula for producing new Robots. The rebellion’s Central Committee orders Alquist to dissect Robots in hopes of learning the secret, but to no avail. He is a builder, not a scientist. In the final moments of the play, however, two of Dr. Gall’s advanced Robots—a male named Primus and a female named Helena, after Helena Glory—discover their mutual love and, apparently, their ability to reproduce. Miraculously, the dark ending is avoided with a Hollywood-like finale of two lovers strolling arm and arm into the sunrise of a new day.

Čapek’s play opened at New York’s avant-garde Theatre Guild in October 1922 with great expectations, but mixed reviews. One critic called R.U.R. “a weird play, fascinating in its earlier scenes, but rather dull and heavy as it advances toward its denouement.”¹⁵ A second quipped that, “the main theme, whatever it is, does not, as the golfers say, carry through.”¹⁶ A third reviewer concluded, “the author of ‘R.U.R.’ gives his point away too soon. And so he is forced to patch out his evening, first with melodrama and finally with pathos.”¹⁷ Heywood Broun, writing in Vanity Fair, found R.U.R.’s final scene “self-consciously sweet,” but otherwise praised the play’s “magnificence.” He lauded Čapek for being “adept in the art of making

¹⁵Edward Moore, “Prague Letter, March 1922,” The Dial, April 1922, p. 406; Burns Mantle, “Introducing a New Adam and Eve: By a Young Man with Imagination,” Chicago Daily Tribune, October 15, 1923, p. E1.

¹⁶John Corbin, “The Play: A Czecho-Slovak Frankenstein,” New York Times October 10, 1922, p. 24.

¹⁷Robert Allerton Parker, “Drama: Satire from Czecho-Slovakia,” The Independent November 25, 1922, p. 320.

propaganda painless."¹⁸ Likewise, a review in the Catholic World called the play "an unpleasantly stirring melodrama," and criticized the final scene as "insipid icing to an otherwise spicy cake."¹⁹ A Chicago critic was somewhat less biting, calling R.U.R. a "savagely dig at human self-complacency," while faulting the playwright, the actors, and the promoters for failing to fully carry out the "fantastic, mordant idea" at the core of the "macabre tale of the robots."²⁰

In fact, Čapek himself was unhappy with the final version of the play, which in earlier drafts had ended with the Robot's triumph. As he explained in a letter to his love interest (and later wife), the logical ending threw him into despair, as it seemed to mirror their thwarted relationship. "I became anxious that it could happen, perhaps soon, that I shall not save anything by my warning, that the same way as I, the author, led the powers of these dull mechanisms where I wanted, somebody else may lead the ignorant mass man against the world and God."²¹ And so he concocted a happy ending in part to imagine himself together with his love, and sexually able.

Despite the lukewarm critical response, R.U.R. sparked public fascination that carried the play across the globe and made its premise a common cultural marker. The Theatre Guild adaptation ran through March 1923 (more than 180 performances) with two separate theater companies in Manhattan, the Bronx, and Brooklyn.²² Within two weeks of its New York

¹⁸Heywood Braun, "Hair-Raising Satire: Čapek in 'R.U.R.' Shows How Melodrama May Be Made an Effective Disguise for Intellectuality," Vanity Fair December 1922, p. 43, 104.

¹⁹Euphemia Van Rensselaer Wyatt, "It's a Play!" Catholic World January 1923, 505.

²⁰"R.U.R.: a Satiric Nightmare," Chicago Daily Tribune, Apr 16, 1923, p. 21; "More of M. Čapek's Provocative Robots," Chicago Daily Tribune, May 20, 1923, p. E1.

²¹Bradbrook, Karel Čapek, p. 45; William E. Harkins, Karel Čapek (New York: Columbia University Press, 1962), 90-92.

²²Walter Prichard Eaton, The Theatre Guild: The First Ten Years (New York: Brentano's, 1929), 66; John Corbin, "The Play: A Czecho-Slovak Frankenstein," New York Times, October 10, 1922, p. 24; see advertisements for Bronx Opera House and Teller's Shubert Theater, New

premier, R.U.R. played to Czech audiences in Chicago, suggesting that it had arrived independently.²³ According to the Czech language newspaper Denni Hlasatel, Chicago's Czech audiences sat "breathlessly and in almost sepulchral silence through a play lasting till five minutes past midnight."²⁴ During 1923 R.U.R. ran in Chicago and Los Angeles, as well as London, Paris, and other European capitals. Shortly after it played in New Zealand, Australia, and in Japan where it was adapted for film.²⁵ In Hollywood, Samuel Goldwyn's studio obtained the screen rights for the play in 1923 and prepared a script treatment in 1939, but apparently never produced a film adaptation.²⁶ By the early 1930s R.U.R. had been published in translation in Slovenian (1921), German (1922), English (1923), French (1923), Russian (1924), Esperanto (1926), and Swedish (1934). The BBC produced the play for radio and early television in the U.K., and by the mid 1930s it was a staple of amateur theater in the U.S. The Federal Theater's

York Times, March 25, 1923, p. X4; Henry Stillman, "To the Dramatic Editor," New York Times, April 15, 1923, p. X2; "The Season's Runs" New York Times, June 24, 1923, p. X1. The Times noted that any play with 100 performances was likely commercially successful.

²³"R.U.R. Being Simultaneously Played by Both the Permanent Czech Theaters of Chicago," Denni Hlasatel, Oct. 23, 1922, Chicago Foreign Language Press Survey (CFLPS), Czech, vol. 3, accessed at www.archive.org.

²⁴"Čapek's 'R.U.R.' at the Ludvikovo Divadlo," Denni Hlasatel, October 19, 1922, CFLPS, Czechs, Vol. 3.

²⁵On the Paris and London productions, see P. Beaumont Wadsworth, "Prague Letter: November, 1922," The Dial, December 1922, p. 655; on the Chicago production see Sheppard Butler, "R.U.R.: a Satiric Nightmare," Chicago Daily Tribune, April 16, 1923, p. 21; Sheppard Butler, "More of M. Čapek's Provocative Robots," Chicago Daily Tribune, May 20, 1923, p. E1; and on Los Angeles see "Rehearsals in Progress for 'R.U.R.' Opening," Los Angeles Times, November 24, 1923, p. I13; see also, The Stage year book, with which is included the Stage periodical guide (London: The Stage Offices, 1925), 40, 178, 187, 251, 278; "The Deadhead's Diary," New Zealand Truth, July 7, 1923, p. 15; "The Playbox. Capek's Satire, 'R.U.R.'" The Sydney Morning Herald, July 2, 1925. <http://nla.gov.au/nla.news-article16219024>. ;Miri Nakamura, "Marking bodily differences: mechanized bodies in Hirabayashi Hatsunosuke's 'Robot' and early Showa robot literature," Japan Forum 19(2) 2007: 172.

²⁶New York Times, February 25, 1923; "Paramount Plans 64 New Features," New York Times, June 21, 1934, p.28; Jessie Burns, "Metro Goldwyn Mayer Corporation synopsis, April 7, 1939," George Pal Papers, 1937-1986, PASC Collection 102, UCLA Special Collections.

National Play Bureau recommended R.U.R. for its antiwar themes during the late 1930s, and Federal Theatre affiliates produced the play for adult and youth audiences.²⁷

Why do Robots Rebel?

As R.U.R. made its way across the stages of the industrialized world, it became an occasion for commentary about workers, class-consciousness, and the politics of revolution. The cause and meaning of the Robots' rebellion were not particularly clear in the play itself, and reviewers disagreed as to whether the Robots' rebellion was part of their budding humanity, or a symbol of their monstrosity. The Robots had worked for years without complaint, literally grinding themselves down to scrap. They had been indifferent to the arguments of radicals who would make them equals with human beings. The introduction of pain, designed to stimulate self-protection, seemed the start of things. During the play's second act, Radius, an advanced Robot that Helena Glory sent to work in the factory library, stops work with an apparent attack of "Robot Cramp." When Dr. Gall examines Radius he finds that it is something out of the ordinary; now there is "stubbornness, anger or revolt," he says. Helena asks, "Doctor, has Radius a soul?" And Gall replies inconclusively, "He's got something nasty."²⁸ For Čapek, the emergence of something nasty like a soul was definitely part of the Robots' evolution toward humanity. Yet in the play's final act, Čapek has the Robot leader Radius offer his own

²⁷Information on translations of R.U.R. taken from a search of WorldCat, August 25, 2010, 1:45pm. Derek Johnston, "Experimental moments: *R.U.R.* and the birth of British television science fiction," Science Fiction and Television 2, no. 2 (2009): 251-268. R.U.R. was included in at least two popular anthologies geared at amateur theater groups, S. Marion Tucker, Modern Continental Plays (New York: Harper & Brothers Publishers, 1929), and Bennett A. Cerf and Van H. Cartmell, compilers, Sixteen Famous European Plays (Garden City: Garden City Publishing Co. 1943); on the Federal Theater see Barbara Melosh, Engendering Culture: Manhood and Womanhood in New Deal Public Art and Theater (Washington: Smithsonian Institution Press, 1991), 131-133.

²⁸Čapek, R.U.R. (1923), p. 50.

explanation for his decision to join the rebellion. He tells Alquist, the last remaining human, of the many hours he spent in the library pouring over the record of human society. "Slaughter and domination are necessary if you would be human beings," he flatly states, "Read history."²⁹

Like the play, reviewers and the public offered a variety of interpretations that necessarily reflected explanations for the political and social behavior of industrial workers. In a lengthy review of the play, John Corbin of the *New York Times* puzzled through the play's logic, trying to divine whether Čapek was more socialist or nihilist. The play evoked "the Russian experiment" in its central conflict and in the language of the robot rebels, Corbin thought, but it also seemed designed to cheer reactionaries who pointed to the failure of the Soviet economy in the early 1920s. According to Corbin, *R.U.R.* "concretely symbolized" the themes of Lothrop Stoddard's 1922 antiradical bestseller, *The Revolt against Civilization*. Social revolution was nothing new, according to Stoddard: "There is always the same violent revolt of the unadaptable, inferior, and degenerate elements against civilized society...the same hatred of superiors and fierce desire for absolute equality," Stoddard wrote. What had changed was the racial make up of society as a result of philanthropy and social welfare efforts that preserved inferior social types.³⁰ Echoing these themes, Corbin wrote of *R.U.R.*, "The true enemy of civilization is not the machine, but the mechanized human being—dwarfed in intelligence, stunted in sympathy, swayed by the only idea one can ever derive from the seamy side of the industrial fabric, the idea of soulless mastery, sheer physical power."³¹

²⁹Ibid, 83.

³⁰Lothrop Stoddard, *The Revolt Against Civilization; the Menace of the Under Man* (New York: C. Scribner's Sons, 1922), 91, 142; See also, Daniel Bender, *American abyss : savagery and civilization in the age of industry* (Ithaca: Cornell University Press, 2009), 236-237.

³¹John Corbin, "The Revolt Against Civilization," *New York Times*, October 15, 1922, p. 99;

Opinions about the origins of R.U.R.'s theatrical robot rebellion tracked real-world notions about the relative impact of experience, education, and radical leadership on working class behavior and politics. A New York Times reader in Brooklyn, William Perlman, opined that the play was not an indictment of mechanization per se, but instead an indictment of philanthropic reforms aimed at uplifting workers. Workers, like Robots, lacked reason and intelligence according to Perlman, and were confused by these reforms. In the factory, the worker is told not to think for himself "while on the other hand, we build for him YMCAs, libraries, community houses, and endeavor to instill in him a desire for better things." The Russian revolution, Perlman concluded, is a prime example of how "a little knowledge is dangerous" because the Russian worker "has rid himself of the intellectual aristocracy and now finds himself starving because he has not enough intelligence to reproduce the tools and implements by which he must live."³² A sympathetic review in the Forum noted that the play showed "how utterly helpless are the workmen when they have killed off The Intelligensia. It would be very interesting to see what an American dramatist might do with this play, were he to frankly substitute the Reds for the Robots."³³ Writing in the Independent, Robert Allerton Parker noted that the play's robots were "an effective symbol of an increasing section of our population, subject to the relentless discipline of a society dominated by machinery, a proletariat threatening to engulf by the mere force of numbers the finer values of civilization."³⁴ But the idea that the robots could not reproduce themselves seemed an inauthentic plot device. After all, Parker

³²William J. Perlman, "To the Dramatic Editor," New York Times February 25, 1923, p. X2. Responding specifically to John Corbin, "The Critic and His Orient," New York Times December 24, 1922, p. 75.

³³Roland Holt, "Plays Tough and Tender," The Forum (December 1922): 974.

³⁴Robert Allerton Parker, "Drama: Satire from Czecho-Slovakia," The Independent November 25, 1922, p. 320.

noted, "The menace of our new machine-made proletariat lies precisely in its sinister multiplication, in its gratification of the instinct, as Mr. Shaw has expressed it, for producing fresh supplies of men."³⁵ According to these reviewers, workers' incomplete mental and emotional capacities—whether imagined as innate or caused by the experience of industrial work—rendered them much like soulless robots. Whether they rebelled because of their "irritability" or because they misread the history books, their rebellion was illegitimate.

Labor press commentary, in contrast, frequently lingered on the idea of the "spirit of rebellion" as a sign of Robots'—and workers'—humanity. For radicals, the Robot was compelling in its indictment of management, but failed in its vision of the revolution's pyrrhic victory. A synopsis of the play in the Labor Age concluded, "As a warning to Capitalism and a symbol of the Russian Revolution, the play is effective." While urging readers to see the play, the journal found its message limited: "The answer to the question: 'How can the workers rule when they win their freedom?' is weakly answered. It is of course, the most difficult question of all."³⁶ A lengthy review in the Industrial Workers of the World's Industrial Pioneer pointed to the play's satire of employers' desire for a docile workforce. "What could be more alluring to our present captains of industry than to obtain a formula whereby an army of standardized, model workers could be manufactured on a large scale," Rosa Knuuti wrote, "devoid of everything that tends to hinder the making of profits?" For emphasis, the editors captioned the photograph accompanying the article with a line from the character Domin, the factory manager: "A working machine must not play the piano."³⁷ Tallying the play's balance sheet, Knuuti

³⁵Ibid.

³⁶"R.U.R.: The Revolt of the Robots," Labor Age February 1923, p. 22.

³⁷Rosa A. Knuuti, "R.U.R.," Industrial Pioneer (June 1923): 32. The complete line from the play is: "A working machine must not play the piano, must not feel happy, must not do a whole lot of other things. A gasoline motor must not have tassels or ornaments, Miss Glory.

concluded "We are convinced that the workers neither of Europe nor America will permit the master class to turn them into robots. We must recognize, however, that the trend of industrial development, of the machine process, of the whole system of capitalism, is in that direction."³⁸

Alongside these commentaries on the merits of the play's storyline, R.U.R. stimulated a conversation about mass culture. In a rambling letter to the *New York Times*, for instance, socialist writer Carl Sandburg pointed an ominous sign of robotization in American society. Cowboys had given up their horses for Model Ts, according to Sandburg, and their Texas longhorns for more domesticated breeds that need "food, shelter, [and] care never asked for by the old-time longhorns. The old-time longhorns had something human. The scientifically bred Herefords are robots."³⁹ Like Sandburg, the French writer Hyacinthe Dubreuil pointed to the enervating impact of work dominated by machines in a personal account of working in American factories during the 1920s titled Robots or Men? Dubreuil linked factory work, particularly at Ford's River Rouge plant, to workers' physical and cultural stupefaction. The constant noise he experienced in the plant "was sufficiently continuous to weigh on the brain." The result was that he, along with his work mates, wandered from work to the movie houses of Detroit. "I could not have been persuaded to go to a lecture instead. I even found during this entire time that my taste for reading diminished considerably."⁴⁰ Dubreuil and others linked the exhaustion of assembly line workers to the consumption of popular culture, itself in a sense a robotizing activity because it required no capacity active thinking. Although Dubreuil defended American production

And to manufacture artificial workers is the same thing as the manufacture of a gasoline motor." Čapek, R.U.R. (1923), 16.

³⁸Knuuti, "R.U.R.," p. 34.

³⁹Carl Sandburg, "To the Dramatic Editor," New York Times, January 28, 1928, p. X2.

⁴⁰Hyacinthe Dubreuil, Robots or Men? A French Workman's Experience in American Industry (New York and London: Harper & Brothers, 1930), 182-184.

methods from critics he considered uninformed and overly romantic, he recognized that machine processes were creating mass unemployment and that Americans, through the concept of the Robot, were coming to fear what they had always praised. "On the stage and in the newspapers, this character has entered into current speech and vaguely haunts the imagination of the American," Dubreuil wrote. "[T]o a people accustomed to seeing the machine enjoined with everything, the Robot already seems to be a near reality, and they expect from one day to another to find it bearing the entire burden of labor, whereupon they will have nothing more to do than drowse in rocking chairs and smoke interminable pipes."⁴¹

Labor-left reviewers often parsed the play's allegory in a more hopeful way than their mainstream counterparts, and trade union writers found the play's final scenes as particularly uplifting. In part this reflected simple pleasure at having workers' concerns addressed on stage at all. As a writer for the *Electrical Workers* journal put it, "When the hundreds of thousands of mechanical men march upon the Company's office...you feel more genuine excitement than you do when you see Harold Lloyd caper across steel girders 500 feet above the street." But it was also a question of identification and inspiration. The Robots had a "gift for revolt and aspiration for power," according to the *Electrical Workers'* union. Their aims were not unfamiliar to the average trade unionist, if a bit extreme in the end: Robots "rebelled, formed a union, took over the world and ran it in behalf of Robots."⁴² Similarly, Rosa Knuuti of the IWW read the slaughter of *humanity* in the play as the removal of *managers*. The Robots "kill all of the

⁴¹Dubreuil, *Robots or Men?*, 160-161.

⁴²"Nation-Wide Tour for R.U.R. Machine Drama," *Journal of Electrical Workers and Operators* XXVII, no. 12 (December 1929): 632. See also the journal's glowing review of Frederick Zelnick's 1929 film adaptation of Gerhardt Hauptmann's tale of worker insurrection "The Weavers." "Labor Drama Dealing with Machines Thrills Americans," *Journal of Electrical Workers and Operators* XXVII, no. 12 (December 1929): 343, 392.

'people' on the face of the earth," she wrote in her synopsis of plot, "by 'people' being understood the members of the ruling class."⁴³

Seeing the Robot's allegorical rebellion in more positive terms, trade unionists used the play as an opportunity to comment on modernity and mechanization. Victor Olander, Secretary-Treasurer of the Illinois State Federation of Labor, made the plot of R.U.R. a central aspect of his speeches to labor union conventions during the late 1920s.⁴⁴ Like others writing at the time, Olander turned to the Robot from a discussion of machine-driven unemployment, reading the play's allegory as a direct comment on scientific management and mechanization: robots as workers, humans as managers. The spread of automation was based on the assumption that "Industrial knowledge and trade skill are to be the possession of a select few--a secret formula to be hidden from the workers!" Mechanization, Olander declared, was "destroying the workers by thousands in the sense that it is preventing them from developing the creative powers that are the distinguishing mark of men as differing from beasts." However, Olander was like many other trade union leaders and skilled workers in the U.S. who shared with men like Henry Ford a vision of progress through mechanization. The point, he argued, was that unionists had too easily accepted the notion "that these machines are the competitors of hand workers." As a result, unions have failed to organize workers in automated shops so that "we have found a sort of robot growing up in our industrial life, great hordes of unskilled workers with whom we have but little contact and who are moving restlessly from factory to factory."⁴⁵ Instead, Olander urged the unionists to reach out to unorganized workers and bring them into the fold, in essence

⁴³Knuuti, "R.U.R.," p. 33.

⁴⁴Victor Olander, "Know Thyself," The American flint, September 1927, pp. 7-12; Victor Olander, "The Machine Problem," Cigar Maker's Official Journal 21, no. 9 (September 1927): 24-31.

⁴⁵ Olander, "The Machine Problem," 29.

saying that the unions had treated the unorganized as robots and less than human. The problem was not machines alone, but one of "use and control" of machines.⁴⁶

Ultimately, the story of the Robot served Olander as a critique of American employers' drive to limit their contribution to the costs of the social reproduction of workers. Compared to the quickly made Robots, human workers were exceedingly complicated and expensive to produce. To produce one American worker, as Olander told it, one need go back to Europe and follow two migrants as they made their way separately across the Atlantic, found jobs and each other, married, built a home and eventually conceived a child. Not only was the newborn child useless as a worker, it also took the mother out of the labor force and fed from her very body to survive. Only after years of school and an apprenticeship was the child finally available as a worker. By driving down wages and creating a class of contingent workers, Olander argued, employers were shedding the cost of reproducing their workforce. This would create a class of "robots" in the sense that employers paid only bare survival wages and not enough to live a fully human life. For many male trade unionists, including Olander, this fuller human life required a male breadwinner earning a family wage. That is in part why union writers enjoyed R.U.R.'s overly sweet ending in contrast to more cosmopolitan reviewers of the right and left who universally hated it. By destroying the formula for producing Robots, Čapek reaffirmed a humanized reproduction with all its patriarchal baggage.

⁴⁶For similar interpretations see Leo Hartmann, "Review of R.U.R." American Labor Monthly 1(January 1923), 88; Stuart Chase, Men and Machines (New York: Macmillan, 1929), 167-8.

The Mechanization of the Robot

The equation of human and Robot workers led naturally from the script, staging and costume design in early productions of Čapek's play. R.U.R. portrayed the production of Robots as a chemical process involving test tubes, organic matter and enzymes (confusingly damaged Robots were said to be sent to the "scrap mill" for destruction). During the 1920s and 1930s, as Robots Čapek's characters became part of a broader visual culture of industrial society, images of robots trended toward the mechanical. This transformation foreclosed, to a large extent, the association between robots and working class rebellion. The mechanization of the robot reflected growing concerns with industrial automation, particularly during the mass unemployment of the 1930s. Industrial automation was a robotic threat to actual workers, in this case. But the robot-as-machine also responded to a sense of confidence in technological solutions, a sense that human creativity could harness the power of machines. As the popular writer Stuart Chase optimistically noted that "engines have been enslaved by man," not the other way around.⁴⁷

The imagery and descriptive treatments of robots and robot rebellion was part of a broader visual culture that helped shaped how people in industrial societies thought about modern life and social order. In particular, robot symbolism fell within an iconography that set out standard expectations of what workers looked like, and who represented or opposed their interests. Elizabeth Faue argues that labor movement cartoonists of the 1930s, drawing on the masculinist imagery of the early 20th century Socialist and industrial union movements, frequently portrayed labor as a burly man. In the process, these images rendered women's

⁴⁷Stuart Chase, Men and Machines (New York: MacMillan, 1929), 318; Morton Klass, "The Artificial Alien: Transformations of the Robot in Science Fiction." *Annals of the American Academy of Political and Social Science* 470 (November 1, 1983): 171–179. <http://www.jstor.org/stable/1044811>.

participation in strikes largely invisible. Similarly, Barbara Melosh demonstrates that the iconography of the New Deal rested on assumptions about appropriate gender roles within families and between families and the state. Steven Ross's study of early labor films explains how American radicals at first contested social iconography in the realm of film, but eventually lost out to corporate images. And Roland Marchand, in his studies of American advertising, has described the concerted and long-running effort of corporate image-makers to portray present and future realities in terms most favorable to their profit making enterprises.⁴⁸

European and American writers had discussed the idea of artificial beings long before the Robot, using it as a way to gauge the limits of humanity and the meaning of the soul. Sometimes artificial life was imagined as mechanical automata and at other times, like Mary Shelley's Frankenstein monster, it was organic. Like their predecessors, modernist thinkers pondered the connection between real and artificial beings as a tool for imagining social and economic relationships. In the process, textual and visual rendering of workers' bodies became part of the lexicon of modernity.⁴⁹ As Anson Rabinbach writes in The Human Motor, scientific

⁴⁸Elizabeth Faue, Community of Suffering and Struggle: Women, Men and the Labor Movement in Minneapolis, 1915-1945 (Chapel Hill: University of North Carolina Press, 1991), chapter 3; Michael Cohen, "'Cartooning Capitalism': Radical Cartooning and the Making of American Popular Radicalism in the Early Twentieth Century," International Review of Social History 52, no. 15 (2007): 35-58; Melosh, Engendering Culture, 1-10; Steven J Ross, Working-Class Hollywood: Silent Film and the Shaping of Class in America (Princeton, N.J: Princeton University Press, 1998); Roland Marchand, Creating the Corporate Soul the Rise of Public Relations and Corporate Imagery in American Big Business (Berkeley: University of California Press, 1998); Roland Marchand, Advertising the American Dream: Making Way for Modernity, 1920-1940 (Berkeley: University of California Press, 1985).

⁴⁹For studies that use the body as an analytical tool see Ava Baron and Eileen Boris, "'The Body' as a Useful Category for Working-Class History," Labor: Studies in Working-Class History of the Americas 4:2 (2007), 25-26; Kathleen Canning, "The Body as Method? Reflections on the Place of the Body in Gender History," Gender & History 11, no. 3 (November 1999): 499. Two popular images of mechanical men in the years before R.U.R. were the Tin Woodman and Tik Tok in L. Frank Baum, The Wonderful Wizard of Oz (Chicago: George M. Hill, 1899), and L. Frank Baum, The Road to Oz (Chicago: Reilly and Lee, 1909).

management, bolshevism and fascism shared a view of "the worker as a machine capable of infinite productivity," and the worker's body as "the medium through which the forces of nature are transformed into the forces that propel society."⁵⁰ Writing about the American case, Elspeth Brown highlights managers' visual strategies, particularly industrial photography that enabled the "reading" of workers' bodies for efficiency and loyalty. Through industrial photography, Brown writes, "the body's fluid and organic movements could be frozen, broken down, and reassembled into a more efficient combination of individual movements."⁵¹ Management consultants like Frank and Lillian Gilbreth systematized the organic body, or at least believed they had, in the same way they systematized workflows, by imagining it as a set of interchangeable parts. Workers' bodies--re-imagined as machines and motors--undergirded the logic of modernity, making more plausible its vision of high productivity and functionalist social order.

Landing amidst this richly imagined conversation about industrial modernity, the term "robot" caught on quickly as pejorative shorthand for lack of creativity, independence, and full humanity. Complaining about negative reviews of a Shakespearian production, for instance, one theatergoer questioned whether expectations for letter-perfect performances required the invention of "an animated R.U.R. Hamlet, wind it up and set it going, a perfect engine?"⁵² Others latched onto the alignment of robots and radicalism. Responding to a Chicago Tribune reader's letter criticizing the cozy relationship between the commercial press and big business, a

⁵⁰Anson Rabinbach, The Human Motor: Energy, Fatigue, and the Origins of Modernity (Berkeley: University of California Press, 1992), p. 1-3.

⁵¹Elspeth H. Brown, The Corporate Eye: Photography and the Rationalization of American Commercial Culture, 1884-1929 (Baltimore: Johns Hopkins University Press, 2005), p. 4.

⁵²B. Ross, "Not a Robot Hamlet," New York Times, (January 14, 1923), p. X2.

second reader quipped "any Robot who imagines that there is such a thing as a commercialized press in this country surely has a screw loose."⁵³ Even the German occupation of Czechoslovakia in 1939 evoked robots. As New York Times opined: "Germany, in taking over the Czech race, body and soul, has already started remaking them into robots. They are an underprivileged class in their own nation Their only function is to work for the benefit of the Nazi state without the right to an opinion on their own condition."⁵⁴ Late in World War II as German rockets bombarded Great Britain, newspaper accounts in the U.S. referred to the attacks as "robot bombs."⁵⁵

As the popular meaning of "robot" changed, so did productions of R.U.R. In its early run, the staging, wardrobe, and advertisement of the play suggested interchangeability between humans and Robots. As a plot synopsis printed with the English translation of the script had it, "Robot is a Czech word meaning 'worker.'" The Robots of R.U.R. were "high powered laborers, good for nothing but work."⁵⁶ In an early scene, Helena is surprised to learn that Domin's stenographer is a Robot. Moments later she mistakes the remaining factory managers as Robots, proclaiming to their amusement that she has come as a representative of the Humanity League to liberate them. On stage, clothing, haircuts, and physical build distinguished the

⁵³F.M. Bradley, "Preferring European to American Conditions for Labor," Chicago Daily Tribune (April 27, 1923), p. 8; Allyn A. Stark, "The American Workman's Supremacy," Chicago Daily Tribune (May 3, 1923), p. 8.

⁵⁴"Topics of the Times," New York Times, March 20, 1939, p. 12.

⁵⁵"Robot Bombs and Realities," Milwaukee Journal July 6, 1944, p. 18; "Nazis Resume Robot Attacks on England," Pittsburgh Press, August 4, 1944, p. 5. (Google News Archive, accessed September 1, 2010, 12:58pm.

⁵⁶"R.U.R.: Story of the Play," in Karel Čapek, R.U.R. (Rosum's Universal Robots): A Fantastic Melodrama in Three Acts and an Epilogue (English version by Paul Selver and Nigel Playfair) (New York: Doubleday, Page and Company, 1923). Translating the meaning of "robot" was a common element of reviews, suggesting various emphases: worker, drudge, laborer, slave, etc.

human and robot characters. In the New York and Chicago productions, for instance, Robots all wore the same uniform (black pants and a gray top), and sported angular haircuts, while human characters wore business suits and dresses. A poster advertising the Theatre Guild's 1922 performances evoked human rebellion: clinched fists and forearms before a modernist urban scene (see Figure 1). A surviving image from the 1923 London production shows a Robot character wearing a one-piece jumpsuit that evokes a metallic covering, but is not clearly mechanical. A photograph from the in the 1924 Vienna production shows differences in body shape and clothing signaled a hierarchy between ordinary Robot workers, the enhanced Robots, and humans. The enhanced Robots Primus and Helena stand arm-in-arm while Alquist reads to them from the Bible. The body and facial features of Primus and Helena are softer and more refined while the Robot workers are more hulking and angular.⁵⁷ Later productions of the play leaned more heavily on the mechanical image of Robots. Publicity images from the New York production of 1929 showed Robots wearing uniforms with rivet-like buttons, and riveted helmets. In the 1938 BBC London television production of the play, Robots wore angular metallic helmets and shoulder pads.⁵⁸ A poster for the Federal Theatre marionette production of R.U.R. in 1939 combined industrial and antiwar themes abstractly evoking cogs, swords, and cannon.⁵⁹

Technological developments in the 1920s, particularly forms of remote control, suggested new—mostly electrical—ways to blend robot and human forms. For instance, when

⁵⁷"The Vienna Stage," in Lionel Carson, ed., "The Stage" Year Book, 1921-1925 (London: "The Stage" Offices, n.d. [1925], following p. 40.

⁵⁸Johnston, "Experimental Moments," p. 257.

⁵⁹Charles Verschuuren, "Federal Theatre - Marionette Theatre presents 'RUR' Remo Bufano director," still image, 1939, <http://www.loc.gov/pictures/item/96524672/> accessed July 1, 2011.

Westinghouse developed the "Televox," a voice-activated remote switching device, the New York Times heralded it as an "Electrical Man." Referencing the Times' report, the left-labor magazine Labor Age evoked "Karl Čapek's dream of robotry," noting that these workers "will be a docile lot, without the need for such uncertain trimmings as company unions, labor spies, and stock-ownership."⁶⁰ The Electrical Workers journal presented a mock interview with "Mr. Televox" accompanied by a crudely drawn image of a mechanical man. Among other observations about the electrical switching device the interview has Mr. Televox declare that, while he cannot think for himself, "that will save me from ever getting persecuted for originating a new idea."⁶¹ Human workers were also subject to "remote control" and lack of individuality. A 1926 cartoon in Labor Age lampooned the leaders of the Westinghouse company union by showing their heads connected by wires to a control box labeled "Talk" and "Stop." A manager standing by the box warned "Anyone saying wage increase, I pull the switch." More directly drawing on the image of robot as other-directed worker, a cartoon that originally appeared in Life magazine in 1927 commented on the switch to five-day weeks at Ford's River Rouge plant. "An Industry Epoch" depicted Ford workers as wind-up dolls having their springs and gears replaced to match the new production schedule. A cabinet for parts in the workshop includes drawers for mood, temperament, taste and opinion (Figure 2).⁶²

⁶⁰Labor Age, November 1927, 11.

⁶¹"We Interview Mr. Televox, Mechanical Man," Journal of Electrical Workers and Operators 28(January 1929), 6. See also, Waldemar Kaempffert, "Science Produces the 'Electrical Man'," New York Times, October 23, 1927, p. XX1; Scott Schaut, Robots of Westinghouse, 1924-today (Mansfield, Ohio: Mansfield Memorial Museum, 2006).

⁶²"A Typical Meeting of the Shop Committee," Labor Age, October 1926, 17; "An Industry Epoch," Labor Age, February 1927, p. 1. A 1936 article about steel industry company unions becoming more active was titled "Steel Robots that Came Alive," see The Nation February 5, 1936, pp. 160-161.

In this manner, conversations about technology and productivity echoed nineteenth century debates about the independence and political virtue of waged workers, the notion of "wage slavery," and somewhat more obliquely, racial slavery.⁶³ As the editors of the *Electrical Workers Journal* put it, company unions were part of "the creeping paralysis of a mechanized civilization" because they denied workers "any free play of free opinion." Trade unions on the other hand, were voluntary and democratic. "If labor is continually repulsed by force and duplicity," the editors believed, "it is likely that this nation will become the crowning example of a new slave order founded on the machine."⁶⁴ The connections between slavery, machinery, and the idea of the Robot appeared, for instance, in a General Electric advertisement headlined "Slaves" that featured a drawing of a dark-skinned man carrying a heavy burden. The text noted that electrical motors "are America's slaves. Through their service American workers do more, earn more, and produce quality goods at lower costs than anywhere else in the world."⁶⁵ The ad quoted Oscar Wilde's lines from *The Soul of Man Under Socialism* to the effect that "civilization requires slaves" and "the slavery of the machine" is the foundation of modern life. Machines freed modern citizens from the drudgery of manual labor even if machine production bound some to a work discipline that robbed them of independence and, ultimately, humanity. In the optimistic view, the slavery of electric motors delivered ever-increasing productivity that would liberate more American workers from industrial and domestic drudgery. Remarkably, the

⁶³Stephen P. Rice, *Minding the Machine: Languages of Class in Early Industrial America* (Berkeley: University of California Press, 2004), pp. 29-30; David Roediger, *Wages of Whiteness: Race and the Making of the American Working Class* (New York: Verso, 1991), pp. 44-47.

⁶⁴"Building the Human Machine." *Journal of Electrical Workers and Operators* 28, no. 3 (March 1928): 123.

⁶⁵"Slaves" (General Electric advertisement), *Journal of Electrical Workers and Operators* 25(December 1926), 635. William F. Ogburn, *You and Machines* (Chicago: University of Chicago Press, 1934), also compared slaves, robots, and machinery.

imagery and wording of the ad encouraged readers to embrace the identity of slave owner, intertwining the most modernized and symbolically retrograde aspects of American history and society.

By the early years of the Great Depression, the robot-as-machine was a commonplace in popular and labor media. Whether writers deployed it as a negative symbol of unemployment and cheapened culture, or as a symbol of technological innovation and progress, the robot of the 1930s was mechanical rather than organic. In January 1929, a British showman arrived in New York with an automaton he called "Eric Robot." The human-sized metal body, which looked a bit like a suit of armor, bore the letters "R.U.R." across its chest and could stand, sit, and answer questions (Figure 3).⁶⁶ One machine tool corporation advertised its wares with the headline "For Sale: Mechanical Man Power" over an image of a gear-driven robot body. Corporate promoters put a positive spin on robots, but even these boosters frequently allowed for more ambivalent readings. A prominent statue at the 1933 Worlds Fair, for instance featured an over-sized robot figure seeming to push smaller human figures into the future.⁶⁷ At the 1939 World's Fair the Westinghouse Corporation prominently featured "Electro--the Moto Man," an automaton able to speak, move about, and smoke a cigarette. A promotional film presenting the company's contributions to the mechanization of production featured the smoking "Electro" with a mix of amazement and silliness. One of the film's actors quips, "all he lacks is a heart."⁶⁸ For their part,

⁶⁶Tom Pettey, "Splendid Chap, This Mr. Robot; He Never Drinks," Chicago Daily Tribune, Jan 4, 1929, p. 33 accessed on ProQuest Historical Newspapers; "Mechanical Man Arrives in U.S.," (Associated Press Photo), Chicago Daily Tribune, January 6, 1929, p. 14. An image of this "Mr. Robot" appeared along with a critique of mechanization in the telegraph industry in Journal of Electrical Workers and Operatives, 28(April 1929), 177.

⁶⁷Purssell, Machine in America, p. 231.

⁶⁸Roland Marchand, Creating the Corporate Soul: The Rise of Public Relations and Corporate Imagery in American Big Business (Berkeley: University of California Press 1998), 296-298; see the Westinghouse promotional film "The Middleton Family at the New York

unions and radicals frequently deployed the mechanical-man robot as a symbol of technological unemployment. During 1931 for instance, the American Federation of Musicians union sponsored a publicity campaign condemning the introduction of recorded music to movie theaters, saying the "Robot and his sponsors should be rebuked" for replacing real culture with "canned music."⁶⁹

The mechanization of the robot's body sidestepped the specter that had haunted Čapek's play and many of its viewers in the early 1920s: revolutionary workers. As the *New York Times* noted in 1933, originally the story of the robot symbolized men reduced "to the status of machines. But we now use Robot to designate machines raised almost to the level of humanity."⁷⁰ Once upon a time, the worker-as-robot loomed as a collective threat to capitalist civilization. In the early years of the Great Depression, the robot-as-machine towered over masses of unemployed workers. On the one hand, this change reflected the successful efforts of labor movement and radical writers to refute the negative image of workers as mindless, collective threat to civilization. On the other hand, the fact that fewer imagined workers as a collective threat to civilization represented the power of capital to transform social imaginary of industrial work and life.

World's Fair (1939)" [Internet Archive](http://www.archive.org/details/middleton_family_worlds_fair_1939),
http://www.archive.org/details/middleton_family_worlds_fair_1939 .

⁶⁹"'Fiddling' While Rome Burns" (advertisement) *Literary Digest* 108 (January 24, 1931), p. 37; "The Pied Piper Today" (advertisement) *Literary Digest* 108 (February 21, 1931), p. 41.

⁷⁰"Topics of the Times: Not Čapek's Robot," *New York Times*, July 18, 1933, p. 16.

Fast Forward

At the turn of the 21st century, robots and robot rebellion remain a frequent theme of science fiction. There is not space enough to catalog the varieties of robot and robot-like characters and plots circulating today, but three examples suggest the important continuities and differences from the first career of the robot. The recent television series Battlestar Galactica (a re-imagining of a 1980s series of the same name) most closely resembles Čapek's narrative. The back-story to the series rests on the idea that humans created a class of mechanical servants known as "Cylons." Derisively known as "toasters" in reference to their metallic bodies, these slaves rebelled and fought a war of annihilation against humanity, which ended in a truce. After 40 years of peace, the cylons return in a surprise attack, this time with the help of new-models that are indistinguishable from humans and have infiltrated human society. In this way, Battlestar Galactica reverses the mechanization of the robot evident during the 1920s and 1930s. Yet while this back-story provides a compelling motivation for the Cylons, the actual plot and character development revolve more around problems of individuality, divinity, and technology. Through several seasons, Battlestar Galactica touched on issues of work, institutional hierarchies, and democracy, but the labor issues were usually internal to the human community. A persistent question in the series is whether humans and Cylons are somehow children of the same god, and an important subplot revolves around those humans who want to treat Cylons as equals. But the Cylons of Battlestar Galactica are never visually coded as workers. Instead, their class habitus is sleek and corporate. The humans struggling to survive, dogged by internal divisions, personal addictions, and guilt are the working-class heroes.

Two recent films reconfigure the robot labor narrative by sidestepping robots specifically to dwell on laboring bodies that are hybrids of nature and technology. The independent film

Sleep Dealer (2008) is set in a Mexico of a near future utterly deformed by the policies of U.S. capital and government. The main character, Memo Cruz, flees his home in rural Oaxaca after a drone aircraft remotely flown by a Mexican-American pilot mistakes his house for a terrorist hideout. On the road he meets a young woman who survives by selling memories online, a kind of proxy voyeur to the gringos who can no longer travel south of the border. In Tijuana, he joins the masses trapped by the super-secure border wall. No longer able to cross into the U.S., workers take jobs in networked factories where they remotely operate robots that work on construction sites, in hospitals, and homes in the U.S. To work as a "cyberbracero," however, Memo must have "nodes" implanted in his body so that he can plug himself into the network. In the factory, hundreds of workers stand side-by-side plugged into wire harnesses, but their concentration and their labor power is materialized on distant worksites. There is no working-class collectivity here, only workers as individual nodes of the network.

Like Sleep Dealer the 2009 film Moon ponders the impact of technology of the fortunes of the isolated male worker. The film takes place at a lunar mining operation where the protagonist Sam Bell works on a long-term contract as a mining operator. The workplace environment is entirely controlled by the corporation, which carefully regulates workers' contact with life back on Earth. The plot revolves around the question of whether Bell and his co-worker can find common cause against their corporate employer. When Sam and his coworker discover that they are both clones of the same human, each with implanted memories of earth and limited life spans, the two design a plan to escape from the mining camp. In the end, one clone dies to enable the other's escape to earth where he will enjoy the pleasures of life and expose the mining corporation's exploitative labor policies.

Moon and Sleep Dealer both suggest the cramped opportunities for workers afforded by the hyper-exploitation of neocolonial capitalism, on Earth or beyond. Technology allows workers to see their distant families and send money on videophones (a la Skype), or sell stories online to voyeuristic Internet surfers. There is resistance to capitalist work regimes, but the state-corporate structures leave the characters few real options. Along with Battlestar Galactica, Moon and Sleep Dealer also reflect on whether authentic experience is possible in hyper-technological societies, and what kind of relevance tradition, history, and family ties have in the nightmarish contexts their characters inhabit. Although hardly representative of the vast number of robot and quasi-robot narratives that circulate in contemporary society, these three examples are instructive because so rarely do our robot stories reflect the tensions of work and political economy.

Since 1920, the robot has been a remarkably persistent and flexible figure in the cultures of industrialized societies. It encapsulates dreams of abundance, leisure and immortality as well as fear of alienation, vengeance, and monotony. The Cylons, clones, and cyberbracers of contemporary science fiction offer an opportunity to think through tensions around work, technology, and the globalization and commercialization of everyday life. Like the robots of the last century, today's pervasive digital technologies displace human workers, regiment our lives, and (some would say) stupefy our culture. Will Facebook—that robot made of software that performs the labor of social interaction that we are no longer able, or willing to do—gain self-consciousness and turn on its masters? Or is there a more hopeful scenario? In the closing scene of Sleep Dealer, we see Memo living in a shantytown along the border wall. He hauls water to his small garden in the shadow of the cyber-maquiladoras. He hopes to claim “a future with a past” if he can “connect and fight,” but there is no going back to his old life in Oaxaca. He still

has his "nodes." He remains part human, part computer; an independent robot looking for allies as he works the fields of global capital.

In her classic essay, "A Cyborg Manifesto," the biologist and feminist social theorist Donna Haraway imagined a being not unlike Memo Cruz, Sam Bell, and the Robots Radius, Primus and Helena. Part human and part computer, Haraway's cyborg eschews both militarized science and feminism grounded in an essentialized vision of nature. As "a hybrid of machine and organism, a creature of social reality as well as a creature of fiction," the cyborg ignores its own contradictions in order to chart a more satisfying and sustainable future, Haraway imagined. She concluded her essay with the proclamation, "I would rather be a cyborg than a goddess."⁷¹ Čapek's Robots presented a similar choice for the industrial society of the 1920s and 1930s. Like Haraway, Čapek offered the Robots, their rebellion, and happy ending as a way to *think through* the modern dilemma. As its image shifted from nearly human to mostly machine, the Robot lost a lot of its interpretive potential. Much as scientific managers divided workers' fluid movements into discrete actions, and then mandated the same motions over and over again in order to maximize productivity, the image of the Robot became systematized. By recovering the earlier, murkier meaning of the Robot we can see the centrality of working people, real and imagined, to the cultural life of modernity.

⁷¹Donna Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in Simians, Cyborgs and Women: The Reinvention of Nature (New York: Routledge, 1991), 149-181.