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Cuba's "Battle of Spare Parts" against the U.S. Blockade (1961–1964)

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People tell many stories about the Cuban Revolution of 1959 but two tend to predominate. The first marks the triumph of the revolution through armed struggle, either celebrating (or, depending upon the politics of the writer, lamenting) the end of Cuba's de facto status as a protectorate of its northern neighbor. The second narrative depicts the newly revolutionary nation as economically hapless and technologically stranded after more than fifty years of reliance upon the United States for importation of advanced machinery and technological expertise after independence from Spain in 1902.

Tellingly, no matter the political leanings of the storyteller, both stories come to the same conclusion: the Soviet Union and its satellites saved Fidel Castro's regime, and, in turn, the nation became as technologically dependent upon Soviet largesse as it had been upon U.S. investment. While this conclusion is not inaccurate, it nevertheless leaves out an important "technology story"—of Cubans rising to the challenge of maintaining U.S.-made machinery without being able to obtain their spare parts any

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longer by both innovating and being creatively resourceful in adopting and adapting new Soviet bloc technology.

Drawing on numerous issues of the influential Cuban weekly newsmagazine *Bohemia* from 1961 to 1964, here I tell part of this technology story. Although the publication was uniformly pro-Castro by 1961 and always sought to spin the challenges facing the new regime in the most positive light, its textual and visual materials offer valuable insight into the ingenuity of ordinary Cubans who helped the country survive one of the most punishing blockades in history that remains in effect today. The culmination of numerous sanctions beginning in 1959, the United States under President Kennedy imposed the blockade in 1962 and shattered Cuba's longstanding dependency on its northern neighbor but, in so doing, left the nation in a difficult bind. When the revolution triumphed in 1959**,** thousands of skilled technicians fled Cuba for the United States while, in the other direction, the flow of critical spare parts for the nation's existing technological infrastructure dwindled to a trickle and then ceased. The Soviet Union and its satellites helped cushion the blow when they provided Cuba generous aid and trade packages, but Soviet bloc technology and know-how could not always easily replace U.S.-made machinery and were often incompatible with existing machinery in Cuba.

By April 1961, *Bohemia* was dizzy trying to spin all the challenges the nascent revolutionary government had to face. In the wake of the Bay of Pigs invasion that same month the security of the nation was in question, but the newsmagazine praised the "capacity of the Cuban technician" and "the mental agility of the worker," supported by the Department of Industrialization of the National Institute for Agrarian Reform, in helping confront the challenge of insufficient spare parts. The newsmagazine found a silver lining in the economic blockade by providing Cubans the opportunity to "develop a series of useful ideas, channeling them productively and again favoring our economic liberation."[1] In one case, an article recounted the extraordinary efforts of workers who searched a dump for discarded materials that could serve as spare parts for the ball bearing boxes of Cuba's only aluminum foil laminating machine. The workers adapted

[1] "Cosas y casos en piezas de repuestos," *Bohemia*, 16 April 1961, 48.

what they found and were able to fix the machine, thereby avoiding paralysis in the country's aluminum industry.

The goal of the U.S. blockade was always a slow, economic strangulation, and the front lines of the fight would become, as *Bohemia* declared, "the battle of spare parts." In that same spirit, the newsmagazine proclaimed to its readers, "Your machine is also your trench—defend it!" (figure 1) and exhorted to its readers that though "the revolutionary government is doing everything it can to obtain spare parts against the imperialist blockade . . . you, worker, are the one who must engage in the decisive battle" and "learn more every day about your machinery; don't wait until a part breaks or is wasted."[2]

Figure 1. The title of the announcement reads: "Your machine is also your trench—defend it!" while the final sentence with a drawing of a hand holding a gear at its end reads "the battle of spare parts leads to victory over imperialism!" (Source: *Bohemia*, 14 May 1961, 35.)

[2] "Tu maquinaria es tu trinchera-defiendela!" *Bohemia*, 16 May 1961, 35.

Cuban workers gave *Bohemia* much material to work with and often embellish. In July 1961, the newsmagazine reported that technicians and workers had not only managed to maintain existing machinery imported before 1959 but also to innovate on their own to lower the cost. In one case, through trial and error—and much tinkering—workers were able to reproduce an expensive exhaust pipe for a U.S.-made locomotive by using a much cheaper pipe. Suddenly, a part that would have cost 20,000 pesos to import from abroad could be replaced domestically with a pipe that only cost 7,000 pesos. Like most wars, the Battle of Spare Parts lacked sweeping victories and would be won with grinding determination.[3]

Because the failure of one machine could cripple an entire sector in an economy of Cuba's size, manufacturing and industry earned a lion's share of attention in the Battle of Spare Parts, but all of Cuba was vulnerable and every Cuban felt the impact of the blockade. For most, the simple fact that by 1961 a majority of buses did not run revealed the extent of the nation's plight. In March of 1962, readers of *Bohemia* read how in December 1961 Soviet technicians and workers had voluntarily worked overtime to design and manufacture motors that could power Cuba's U.S.-built buses for long-distance transportation. Inspired by this "generous" act of "socialist solidarity," Cuban engineers and workers, in turn, worked three straight days and nights to assemble and install the Soviet motors in the sixty percent of the national bus company's vehicles that had been idled owing to the blockade. Thanks to this joint effort, Cuba once again had a functioning inter-city bus service.[4]

Bohemia's editors did not take long to follow up on this important story. In July 1962, they ran a two-page feature article with the headline "The Triumphant Work of [Our] Transportation Workers." Reminding readers that the goal of the U.S. blockade was to paralyze the economy by depriving it of spare parts for U.S.-made vehicles, the article's author defiantly wrote: "This blockade has obviously brought some difficulties and inconveniences, but it has not achieved its main objective because it crashed into

[3] "La Inventiva de los Obreros Burla el Bloque Imperialista," *Bohemia*, 16 July 1961, 42.
[4] "Motores Sovieticos," *Bohemia*, 9 March 1962, 53–54. How long this improved state of affairs actually lasted needs further research, given that Cuba's ground transportation woes have been a well-known feature of its national life since 1960.

the wall of the revolutionary spirit and indomitable will to work of [Cuban] transportation workers."

The magazine argued that this spirit and will was "delivering one of the hardest defeats to imperialism" through a succession of small triumphs: transportation workers inventing new batteries and brake linings to substitute for U.S.-made ones, repairing broken-down buses with repurposed parts, and, in general, keeping the buses running in spite of a shortage of wheels and other challenges which required working overtime and maintaining "revolutionary faith at the highest level." The proof of Cuba's victory was in the numbers of increased riders nationwide. From January to March 1958, when US-backed Batista ruled Cuba and there were no shortages of spare parts, urban bus rides totaled nearly 92 million, while during those same months of 1962, when the United States imposed a complete blockade on Cuba, bus rides totaled nearly 112 million.[5] If the United States intended to grind Cuba to a halt, it was failing, according to these statistics.

The Battle of Spare Parts was not one Castro had sought, and the blockade made his longstanding goal of industrializing Cuba that much harder. Yet, if there was a silver lining, it was that Cuban leaders were forced to diversify their country's industrial sourcing. In January 1963, *Bohemia* reported on the example of one particularly important industry, metal container production. In 1959 there was one major, privately held company which produced 153 million metal containers per year, employing 400 workers. In 1960, the government nationalized the company, and, in a year's time, expanded the factory to 950 workers and its production increased to 319 million containers.

Doubling the workforce only partially explains the increase, for the massive boost in production should have demanded an equally massive demand for critical U.S.-made and supplied parts. *Bohemia* provided a two-part answer to this puzzle. One was the beneficial effect of needing to be more inventive and resourceful in securing raw materials, such as sand for use in "sand-casting" to cut metal plates, in either Cuba or another friendly country. For example, while sand could be mined from Cuban beaches,

[5] "Triunfa el trabajo revolucionario de los obreros del transporte," *Bohemia*, 20 July 1962, 51–52.

U.S.-supplied tin and cork could not, so while Cuban officials could look to the USSR for help, they also had to navigate the stormy waters of Cold War diplomacy to secure tin from Japan and cork from Morocco.

The second part of the answer arose from the first. The nationalized company's container factory took these newly sourced raw materials and produced 100 percent of its own spare parts—all of which had to work with the existing, older U.S. machines. The blockade was intended to strangle the country economically, but after touring the factory, *Bohemia* reported that it was instead liberating undervalued workers:

> Until the Cuban worker was able to be the master of his own destiny, nobody knew that in a large part of the working class there was a potential inventor who never had the opportunity to develop [his skills], or to demonstrate his aptitude, as he is now doing, substituting raw materials, [and] adapting machinery or making other [machinery].

The elitist tone in this backhanded compliment is hard to miss. On the one hand, it praises Cuban workers for rising to a daunting challenge, and yet it also claims that "nobody" would have discovered the workers' latent inventiveness – not even the workers themselves – without Castro's revolution acting as a catalyst.

As if the blockade were not enough of a test for Cuban workers, in early October 1963 Hurricane Flora hit the eastern part of the country. The ensuing human and material destruction was catastrophic, the worst in decades. But to the CIA's surprise, the country under Castro's leadership, like during the Bay of Pigs, rose to the challenge remarkably well, including boosting production of relief supplies in the west.[6] Recovery from the hurricane went well enough that the government could also afford to simultaneously establish a long-planned network of workshops around the country to repair imported household appliances. Even before the hurricane, although Cuban industrial workers and technicians were tinkering and innovating creatively in their workplaces, lay people were not as adept. As a result, the latter resorted to taking their broken electric appliances to private workshops, which, *Bohemia* claimed, charged

[6] Mikael Wolfe, "'A Revolution is a Force More Powerful than Nature': Extreme Weather and the Cuban Revolution, 1959-1964," *Environmental History*, July 2020.

"astronomical prices" for repairs that were not guaranteed or else to the black market where individuals without scruples "criminally speculated" with spare parts that they had illicitly obtained.

To prevent such abuses, the Ministry of Internal Commerce together with the National Electric Workers Union, created a central agency that set up ninety "conveniently located" (without specifying where) workshops across the country for families to take their refrigerators, fans, televisions, radios, air conditioners, and irons, for repair and maintenance. In its characteristic pro-government tone, *Bohemia* described the new network of workshops as part of a revolutionary patriotic effort that relied on material donations and the voluntary work of technicians whose efforts were integral to "socialist work" and reflected a "national more than personal interest."[7]

Like every battle, celebrated heroes emerged from Cuba's Battle of Spare Parts against U.S. sanctions. One of the most acclaimed graced the pages of *Bohemia* in February 1964, exactly two years after the imposition of the blockade. Forty-nine-year-old Afro-Cuban Félix Arne directed a section of a paper and cardboard-making factory and volunteered 960 hours in overtime to "the common benefit of the nation." For that extraordinary effort, Che Guevara personally presented him with certificates of gratitude for "Voluntary Communist Work" that exemplified Guevara's ideal of the "new man"—one who was driven by moral incentives to work harder and longer to build communism in Cuba.[8]

Figure 2. "The Hero of Voluntary Work" Félix Arne, director of a company unit making cardboard and paper, received a certificate of gratitude from Che Guevara for working overtime without pay for nearly one thousand hours to help build communism in Cuba.

[7] "La reparación de équipos eléctricos domésticos," *Bohemia*, 18 October 1963.
[8] Ernesto Guevara, *Socialism and Man* (Pathfinder Press, 2009).

Reflective of Guevara's vision, Arne's achievement was not just his staggering amount of extra toil, but his inventiveness Jerry-rigging machinery and improvising tools. *Bohemia* even joked that "all the machines know him" and Arne's hands "healed their parts," to the point that "some people say he even loves [his machines]." For example, he replaced a manual lever for a pressing machine – the operation of which had endangered workers' lives—to make waste paper bales with an electrical power source. He also built a drum for sorting paper, developed a design for a truck bed to transport the paper, and constructed a saw to cut junkyard scrap wood that had to serve as a substitute for fresh U.S. lumber.[9] Just as not every soldier could be a hero, not every worker would be expected to exemplify the "new man" like Arne, but during these crucial years, he would be the ideal to which others could aspire.

It may be tempting to dismiss *Bohemia's* reports as excessively self-congratulatory—as mere Cuban counter-propaganda to U.S. propaganda that the blockade would cause Castro's immediate downfall—but the magazine's reporting, even with its pro-government embellishments, still provides useful perspectives for the history of technology. Besides honest appraisals of a very real black market in the nation, the newsmagazine highlights ordinary, modest accomplishments that are of little propaganda value individually. Only collectively, as a broad-based phenomenon, does the Battle of Spare Parts seem worthy of notice as a demonstration of local Cuban innovation and resourcefulness.

In the long run, despite massive Soviet support and Cubans' own ingenuity, Cuba could not overcome its enduring structural technological dependence on the United States and other countries to spur the kind of industrial development Castro had initially envisioned in his 1953 "History Will Absolve Me" speech, which was the closest approximation to a revolutionary plan that he articulated in detail before 1959.[10] Further research is likely to demonstrate that Cubans' efforts at local technological innovation, despite *Bohemia's* glowing portrayals, could not in themselves have enabled industrialization under the U.S. blockade. However, perhaps more importantly, waging

[9] "Héroe del trabajo voluntario," *Bohemia*, 7 February 1964, 19–20.
[10] www.marxists.org/history/cuba/archive/castro/1953/10/16.htm (accessed Aug. 22, 2020).

the Battle of Spare Parts at least helped ordinary Cubans survive and, as a result, the Cuban Revolution as a whole.

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