Che Guevara and ICT4D in Cuba

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ABSTRACT
Che Guevara’s contribution to ICT4D in Cuba grows out of the critical but comparatively little-known practical and theoretical governmental work he undertook as President of the National Bank of Cuba, head of the Department of Industrialization, and Minister of Industries following the Revolution’s military victory on December 31, 1958. In examining these contributions, this paper builds upon the work of Helen Yaffe and looks at Guevara’s prescient and visionary grasp of where technology was headed, his preference and recommendation for adopting it at its most advanced levels, and his insistence upon the need for a critical socialist framework and complementary political education. It will finally point to several arenas where this brief presentation has current implications.

CCS Concepts
• General and reference → Document types → Biographies • Social and professional topics → Professional topics → History of computing → Historical people • Social and professional topics → Computing / technology policy → Government technology policy and import/export controls.

Keywords
Cuba; ICT4D.

1. INTRODUCTION
In this post-December 17, 2014, call for normalization era, it is pivotal to ask about the role that information and communications technologies (ICT) can take in Cuba’s social and political development and in U.S.-Cuba relations. What is the popular discourse about these matters? What contribution can the academic field/subfield of ICT for development / ICD4dev / ICT4D / ICTD make?

This brief, overview presentation will hopefully provide a foundation for examining Che’s work in this arena more closely and as well as these questions and some of the more recent and current ICT4D-in-Cuba contributions and approaches.

2. CHE GUEVARA RECONSIDERED
At first blush, Che Guevara would seem to have little to add to a serious discussion of ICT4D in Cuba. He seems to be an actor of a different sort, in a different realm, from a different time. But upon closer examination, Guevara appears to be on the money, as it were, to inform the field.

The Che Guevara here is hardly known outside of Cuba. The Ernesto “Che” Guevara referred to here is the one who, in the aftermath of the Revolution’s military victory, became a key member of the new government, taking responsibilities in a number of high level capacities including President of the National Bank and Minister of Industries, roles that are not widely known that he played, especially as they stand in contrast to his popular image as revolutionary guerilla leader and romantic exporter of that revolution across the globe.

Even among those who are aware of Guevara’s governmental roles, there is a popular story that is told about them that serves to reinforce the popular image and Che’s revolutionary swagger. Jon Lee Anderson notes it in his classic 800+ page biography:

Che loved telling a story about how he’d gotten the bank job. He said that at the cabinet meeting held to decide …— Fidel said that he needed a good economista. To his surprise, Che raised his hand. “But Che, I didn’t know you were an economist!” he said. “Oh, I thought you said you needed a good comunista,” Che replied.¹

However overlooked or made light of, this work was substantial. It was in his official post-1958 capacities that Che developed the economic foundations, concretized in a new Budgetary Finance System to support the massive socio-economic reconstruction set in motion and oversaw key sector institutional development to lead the transition to socialism, including the establishment of science and technology research and development (R&D) institutions across the country that would help lead the transformation. In these capacities he gave extended active and reflective attention to state of the art developments in science and technology. His accomplishments and pronouncements about these matters importantly inform Cuban policy since then, and have special relevance in what has become one of the most hot-button arenas in Cuban development and US-Cuban relations.

¹[1, p 430]. It was the publication Anderson’s biography that led to the discovery of Che’s body in Bolivia in 1997 and its eventual return to Cuba. If there has been any recent addition to Che’s popular image, that has been due primarily to The Motorcycle Diaries, both the book [7] and the movie, which complement the portrait of romantic adventurism, emphasizing his medical background and the empathy he felt for the dispossessed, those he met on his journeys and at the leper colony where he volunteered.
2.1 Che Guevara as the Revolution’s Political Theorist and His Contributions to Post-Military Transformations

Che Guevara’s theoretical and practical contributions in these arenas fit in with his role as the Revolution’s political theorist. The oversight about them is not surprising, given that this role, not an official one to be sure, also generally goes unrecognized. C. Wright Mills got it right. The Pelican edition of The Marxists, Mills’ final work completed in the year of his early death, 1962, offers Fidel Castro on cover, in a faded yet prominent red or orange, behind / in back of / besides Lenin and Mao, but it is the writings of Ernesto ‘Che’ Guevara that are featured in the text, in the penultimate chapter, “reflecting upon ideology, revolution, and related matters,” reprinted from Studies on the Left, Volume 1, No. 3, 1960, Special Issue on Cuba, with essays by Guevara and John-Paul Sartre.2

Guevara had studied Marxism prior to — and during — the Revolution’s military campaign. He was well known for the changing collection of books among the few belongings he carried throughout the countryside, and he applied himself to them with a special urgency and direction after the military victory and consolidation when he was involved in major studies of Marxist classics and the USSR Manual of Political Economy with special teachers and experts from both Cuba and the USSR.3

The Che Guevara to look at here is the one whom Helen Yaffe has made a point of presenting in her book Che Guevara: The Economics of Revolution [16] and in articles whose titles highlight much of the portrait, the story, and some of its key dimensions:

- “Che Guevara’s Enduring Legacy: Not the Foco But the Theory of Socialist Construction” [17]
- “Che Guevara and the Great Debate, Past and Present” [18]
- “Ernesto ‘Che’ Guevara: A Rebel against Soviet Political Economy” [19]
- “Ché Guevara: Cooperatives and the Political Economy of Socialist Transition” [20]

Within a year of the overthrow of the Batista regime, Guevara had written: “In fact, the Cuban revolution must be separated into two absolutely distinct stages: that of the armed action up to 1 January 1959, and the political, economic, and social transformations since then.” [12, pp 437-38] It is these high points, angles, and themes, all from the second stage, that Yaffe draws our attention to.

The enduring legacy is not the theory and practice of the rural guerrilla-campesino mutually transformative revolutionary cadre development; it is the social, economic, systemic institutional reconstructive socialist transition from a capitalist to a socialist ways of life in its theoretical and practical dimensions, the manner in which Che’s positions stood over and against Soviet understandings and practices, the key role that co-operatives play in the debates that were first formulated during those early post-revolutionary transition years and have continued to play out into the present and future.

As we shall see, Che Guevara would have felt quite at home among today’s various schools of CyberMarxism. [10, pp 1-4]

2.2 Che Guevara on ICT4D

Yaffe’s work has received good attention in Cuban Studies circles, though it has not been singled out for its treatment of ICT despite the marked attention she’s given it, especially in Chapter 7, “Science and Technology,” in her main work and in other comments dispersed throughout her articles.4

Overall, three points of note and orientation about Guevara’s work and approach to socialist construction and revolutionary transformation involving technology stand out. First, Che Guevara was a vocal and staunch advocate for the adoption and use of the most advanced technology available; he saw it coming out of the most advanced stages of capitalism; he was visionary and prophetic in terms of how he saw technology developing; he helped produce the foundation for its practical development.

Second, it needs to be appreciated that by themselves, the integration and use of emerging technology tools would not lead to socialism — this was the mistake the Soviet Union was making. By themselves, even with productivity increases, these tools would only reproduce capitalist relations of production and consciousness.

Finally, as a consequence, socialist education and socially- and politically-conscious technology development programs were integral requirements along with technology’s use. They would come out of and play a leading role in developing the new overarching socialist framework, incorporating a growing level of moral incentives to supplement the material ones that accompanied increased productivity, building upon co-operative forms of organization that support participatory decision-making and the social and communal consciousness that result from, nourish and reinforce the kind of volunteerism that is a hallmark of freely-chosen social identity as the mark and direction of individual fulfillment.

Guevara’s advocacy of advanced technology was clear and consistent from the beginning of his finance and economic development work and directorship of the Ministerio de Industrias (MININD), in overseeing businesses transferred to the Department of Industrialisation that ranged from modern technology plants to artisan workshops, and in founding the research and development institutes to apply science and technology to production.

4 Reviewed by Steve Ludlam, Senior Lecturer in Politics at the University of Sheffield and founding convenor of the British Political Studies Association’s specialist Labour Movements Group [8]; by Dr. Jesús Pastor García Brigos, Institute of Philosophy, Havana, Cuba [4], and elsewhere, including the Cuba Users group on Yahoo in November 2009 [3]. Yaffe’s book lists a number of biographical sources for Che Guevara [16, pp 340-42], many with a similar orientation, including Carlos Tablada’s 1987 book [13] and her 2006 interview with him. Tablada’s work did not have the perspective of ICT development afforded to Yaffe.
It is the 7th of 11 “enduring” principles of the budgetary finance system (BFS), the new system of socialist political economy:

“The most advanced forms of technology and management techniques possible should be borrowed from capitalist corporations without fear of ‘ideological contamination.’” [17, p6]

This is, after all, a new era. Yaffe quotes Guevara at the beginning of her concluding section in the Science and Technology chapter: “We are inaugurating an epoch in which scientific knowledge is, and will increasingly be, the main force that determines our rhythm of development and our capacity to ‘burn through stages’ in the construction of socialism.” It’s an anticipation and elucidation of Marshall Berman’s reading of The Communist Manifesto in All that Is Solid Melts into Air. [2, pp 87ff] And we cannot wait:

We cannot follow the development process of the countries which initiated capitalist development, 100 or 150 years ago — to begin the slow process of developing a very powerful mechanical industry, before passing on to other superior forms, metallurgy, then chemicals and automation after that.

And Yaffe points out the connection with current technologies. “The technical capacity for computer based planning operations did not exist in Cuba in 1959, but confident about its progressive potential, Guevara set out on the first steps in that direction.” [16, p 164]

Yaffe is deliberate in drawing connections to computer technology. She begins her chapter pointing to the Island’s first computer arriving during the “decadent 1950s” at the Havana Greyhound Kennel Club track, “a totalisator — a mechanical system running pari-mutuel betting, calculating and displaying payoff odds and producing tickets based on incoming bets.” After this, “A second computer was imported from England in the early 1960s, an Elliot 803, and used to the Ministry of Industries (MININD).” [16, p 163] Along the way, she puts it, “Guevara argued that countries that could master electronics and automation technology would be in the vanguard of international development.” [16, p 169] Towards the chapter’s end, Yaffe caps the story with a citation from one of her many interviews, this one involving the Office of Automation and Electronics in MININD, that was instructed to lead on Guevara’s plan to import computer components and assemble the machines in Cuba. This would reduce the cost of technology transfers and serve to train up electrical engineers until they were capable of manufacturing computers domestically. According to Oscar Fernández Mel, a doctor in the Rebel Army, Guevara was already thinking along these lines in early 1959 when they lived together in La Cabaña fortress:

“Che was interested in computing, the automation of management … He created the first school of computing and acquired the first computers… Che was the pioneer of the introduction of computing in Cuba.” [16, 195-96]

As to Che’s position on the need for an overarching revolutionary socialism and political education along with the use of emerging technology tools, he became a major critic of the Soviet system not primarily for its use of old technology but for doing so “without recognizing the need to change people’s attitudes and values [that] would reproduce capitalist social relations and consciousness… [T]The Soviet system failed to foster the collective consciousness in workers that was a precondition for socialism and communism. [17, p 3]” As Yaffe notes:

Guevara set up the budgetary finance system of economic management to test his theory that it was possible and necessary to raise consciousness and productivity simultaneously, even in an underdeveloped country in the process of socialist construction. The system was openly articulated as an alternative to the Soviet’s “hybrid” system of market socialism. [17, p4]

Guevara criticized the USSR not only for its unsocialistic approach to using technology, but also for its preference for military technology to the exclusion of / low investment in improving civilian productivity and for ideological resistance to capitalism’s advanced achievements, especially cybernetics, invented by U.S. mathematician Norbert Weiner.

Criticising the Soviet’s rejection of cybernetics on ideological grounds, Guevara said: “For a long time cybernetics was considered a reactionary science, or pseudo-science. Naturally cybernetics has reactionary philosophical implications if you want to give it them, but that aspect does not interest us…[but] it is a branch of science that exists and should be used by man. It has not been developed with sufficient effort… We should work for rapid mechanization and for automation now without fear…” [16, pp 167-68]

And just as Che was far-sighted in his anticipation of computer technology, so it can be argued that he anticipated, too, the importance of the political dimensions of Cybernetics, a field that, Wikipedia [15] informs us, comes from Greek κυβερνητική (kybernetike), meaning "governance" and has maintained the political dimensions from its historical origins and first written appearance in Plato’s The Alcibiades, “to signify the governance of people.” One of its most prominent arenas in current use, in Computer Science, one of ten subdivisions of the field it covers, applies its concepts “to the control of devices and the analysis of information” in five areas, the most politically pronounced involving decision support systems.

In any case, a listing of the nine R&D institutes and projects established in the first three years of MININD suggests the embeddedness and integration of technology into increased productivity areas that would contribute to the realization of socialism’s promise, and Che’s update of Lenin’s definition of communism as soviets plus electrification:

1961 Commission for Mechanisations of the Sugar Harvest
1961 Cuban Institute of Mineral Resources
1962 Cuban Institute of Mineral and Metallurgy Research
1962 Office of Automation and Electronics
1962 Cuban Institute for Technological Research
1962 Ciro Redondo experimental farm
1963 Cuban Institute for Research into Sugar Cane Derivatives
1963 Cuban Institute for the Development of the Chemical Industry
1963 Cuban Institute for Machinery Development [16, p 171]

The Office of Automation and Electronics and the Institute for Technological Research are the purest examples of technology innovation. As Yaffe says of the former which applies to them both, they were “established within MININD to find immediate solutions to concrete production problems whilst laying the foundations for future advances.” [16, p 195] The actual achievements of Che’s efforts in these areas in the 1960’s were
limited, to be sure. Yet Yaffe’s conclusion is a pointed one and exemplification of her work as one of political education:

Today, institutes operate in Cuba covering all the areas of those set up by Guevara between 1961 and 1963. It is arguable that although the achievements were limited during MININD’s existence, Guevara’s real accomplishment was to introduce a methodology for applying science and technology to production, forcing that agenda onto the national development strategy, initiating the necessary training and research infrastructure, including investing in laboratory research, experimental areas, pilot plans and prototype workshops to create a cycle of innovation. [16, p 198]

3. CONCLUSION

While this brief presentation can stand alone and may serve as a useful point of departure for the reader by itself, let me simply point to some of my own preliminary and draft investigations [9] as they may be suggestive of some informative places to go.

These involve, first, a summary note of two recent studies from the field of ICT4D itself. The first [6] an extended, decade-long multi-dimensional one between the University of Ghent in Belgium and Universidad Central Marta Abreu de las Villas in Santa Clara, central Cuba, exemplifies numerous key features about successful collaborative assistance: its multi-dimensionality is an indication of a holistic response responding to the full scope of institutional needs, not just narrow technological ones; its emphasis on human capacity building underlines the importance of institutional needs, not just narrow technological ones; its emphasis on human capacity building underlines the importance co-operation, sharing, and ongoing contact.

The second study [5] — the only one devoted to Cuba in the official journal of the ICT4D conference — is usefully focused on a point of overlap with the first. This is a collaborative piece on Cuba’s dual rationale for Free and Open Source Software (FOSS). As with other technology developing nations, the emergence of a worldwide community in FOSS offers advantages that include not only substantial financial savings, but also the collaborative opportunity to develop dedicated products in keeping with local conditions. Moreover, Cuba is unique in the deprivations it has suffered as the result of the U.S. embargo and blockade, and FOSS is a useful platform for dealing with this as well.

More than a year after the historic December 17, 2014, concurrent Presidential calls for normalization, the embargo continues. In “What is the Future of ICT4D in Cuba?” [14] a piece bridging the academic and the popular dialogues in the U.S., its author calls out our “mixed record and failures, painful and comical alike.” The continued organizational and project failings and limitations as represented by USAID Cuba programs involving Alan Gross and the faux-Twitter ZunZuneo fiasco, and even more distressing for those of us in this arena, the broad U.S.-based community and nonprofit technology efforts represented by RootsOfHope.org and the Hackathon for Cuba, these are the final areas of investigation.

