

Computer Memory, Collective Memory: Recovering History through Chilean Computing

Eden Medina
Indiana University

As historians of computing, we often study how social factors shape computing machinery's design and use. However, we often do not consider that our work can contribute to ongoing social processes such as the recuperation of national memory in countries where knowledge of the past has been erased or suppressed.

Through my work in Chile, I have found that broadening the history of computing to include the experiences of such nations provides a unique opportunity for computer historians to help recover missing elements of a lost past.

Chilean computing

A common misconception is that Chile does not have much of a computer history. (See the "History and Memory in Chile" sidebar for a review of Chile's political and social history.) However, Chile's history of computer use in many ways parallels that of the US. IBM was selling tabulating machines to Chilean markets by 1921 and established a Chilean branch office eight years later. Other business machine companies, such as Burroughs, entered the Chilean market around this time and later sold mainframes to businesses and government offices, although IBM was the dominant company. By the 1950s, using unit-record machines was standard administrative practice, and many Chilean businesses contained unit-record departments and later "IBM departments."

Chile was one of the first South American nations to import an IBM 360 mainframe—then heralded as the fastest machine in Latin America—for academic and government use. During the 1960s, Chile was among the first countries to form a centralized state computer agency, and the United Nations championed it as a model for the developing world.

Computing and collective memory

From 1971 to 1973, the socialist government of Salvador Allende funded a small effort to create a computer system that could run its socialized economy in real time and included mechanisms for worker participation.

Although it was an ambitious undertaking—and a computing first—knowledge of the project had all but disappeared in the years following the 1973 military coup. Few Chileans knew of its existence when I first arrived in Santiago in 2001. Until recently, most Chilean computer professionals and scholars of Chilean history had never heard of the computer experiment inspired by Chile's political experiment. (I have written about the specifics of the system elsewhere.¹)

The system (called Cybersyn in English and *Synco* in Spanish), used Chile's extremely limited computer resources to build a system for economic control, something deemed impossible in industrialized nations such as the US. Cybersyn's success, participants argued, would validate Chile's path to socialist change. The confluence of technology and nationalism that Cybersyn represented makes it an important object of study, as do its contributions to the survival of the Allende government. In interviews, many project participants refer to the system as a *locura* (Spanish for a crazy undertaking)—a word they used to describe the feeling that anything was possible. Given that the government tried to run the economy with one mainframe and a primitive network of telex machines, Cybersyn was indeed a *locura*, but one that reflected the free thinking of the time.

On 11 September 2003, Chile commemorated the 30th anniversary of the military coup and publicly re-examined the events of the past and their significance (see sidebar). Because I was living in Santiago during this important moment, I was able to discuss this computer history with the Chilean press and the public.

In July 2003, the Leftist Chilean publication *Clinic*, a newspaper with one of the highest circulations in the country, featured the system in two commemorative issues.² One article included a lengthy interview with the Cybersyn project's political director, Fernando Flores, who was then a hopeful for the 2005 presidential election. The other multipage article, "Allende's Cybernetic Dream," summarized the history of the project and was illustrated

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History and Memory in Chile

On 11 September 1973, the Chilean military incited a coup against Chile's democratically elected president Salvador Allende. The coup resulted in Allende's death and brought his short-lived socialist government to a violent end. Seventeen years of military dictatorship under General Augusto Pinochet followed. Under Pinochet, the military sought to purge the country of political "subversion," an end that resulted in the torture, death, and disappearance of thousands of Chileans at the hands of their own government. The dictatorship displayed similar levels of determination in their efforts to erase and rewrite the events of Chile's past.

To understand the significance of history in Chile, we must understand the lengths the military went to destroy knowledge of the past. After the armed forces seized control of the country from Allende in 1973, they employed a number of tactics to "save" Chile from the evils of socialism. The military burned books, suppressed art, censored the press, and killed or abducted more than 3,000 Chileans—those often referred to as the *disappeared*—whom the dictatorship deemed politically dangerous. The military commissioned new history books and purged universities of intellectuals whom the generals believed were Leftist sympathizers. Neoliberal economic "shock treatments" put in place by University of Chicago economist Milton Friedman and his Chicago Boys increased foreign investment and modernized Santiago with high-rise office

buildings that dwarfed or replaced the city's historic architecture. Collectively, these actions erased and rewrote history. Chile returned to democracy in 1990, but national reconciliation with the events of the past has been much slower in coming.

In 1998, General Augusto Pinochet was arrested in London and charged with human rights crimes committed during his 17 years as dictator. For many human-rights organizations and Chileans worldwide, the arrest was the first step toward truth and justice. Pinochet was not tried, but the arrest encouraged the reexamination of Chile's difficult past.

On 11 September 2003, Chile commemorated the 30th anniversary of the military coup and the death of former president Salvador Allende. The anniversary provided a new impetus for Chileans to revisit the past, speak of memories and events that the Pinochet dictatorship had suppressed, and reevaluate the meaning of history. TV aired footage with unprecedented frequency of the military bombing of the presidential palace. Documentaries about Allende's Popular Unity government and the Pinochet dictatorship saturated prime time. On the nightly news, politicians and journalists discussed the events and interpretations of Chilean history and debated its importance to the nation's present and future.

This reexamination of the past introduced new perspectives, voices, and areas of study to Chilean historiography,³ including studies of Chilean computing.

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with several color photographs of the Cybersyn Operations Room. These photos told a different story of the Allende government, one grounded in Technicolor dreams of the future rather than the stark realities of 1970s black-and-white journalism.

This second article also framed Allende, one of the most controversial figures in Latin American history, in a new light. Common perceptions of him range from a martyr who died bringing social change to the Chilean people to a destroyer of the Chilean economy. But a cybernetician? Although Allende was a physician, he had never been considered a technologist.

In fact, Allende was not a cybernetician, and labeling him as such would be misleading. However, both *Clinic* articles do important historical work. Technological progress and innovation have traditionally been associated with the Chilean Right and Center and their efforts to industrialize the nation, modernize manufacturing, and import capital-intensive goods for upper- and middle-class consumption. In contrast, the Chilean Left has often been cast as technologically backward or technology averse.

The history of Chilean computing suggests otherwise. Although Allende was not a cybernetician, the Left included members of Chile's technical elite who considered technological success and innovation a part of its successful revolution. Thus, computer history complicates Chilean political history and offers new insight into the Chilean revolutionary process.

Internationalizing computer history

It's important not to overstate the significance of Chile's computer history or of computer histories in general. But overlooking the broader potential for the histories of this technology would be equally egregious. Chile now boasts one of the most computer-literate workforces of South America, but Chileans, particularly those of younger generations, know little of their country's history with this technology. The proliferation of cybercafes in downtown Santiago testifies to the growing ubiquity of computers in daily life there, yet a popular perception is that these technological systems have always originated elsewhere. Cybersyn not only constituted a unique facet of Chile's socialist revolution, it was a significant element

of computer history, one that Chileans can claim as their own.

The history of computing has tended to be a collection of often-disconnected pieces of the international story—one set primarily in the US and Western Europe. Scholars have long recognized the need to connect the dots, and this goal represents more than an intellectual pursuit. Computer histories, like the histories of other technologies, help us to better understand the dreams and actions of historical figures and the options available to them. As in the case of Chile, the history of computing can also help restore missing chapters of national history, provide new insights into the past, and even establish a source of national pride.

References

1. E. Medina, "Designing Freedom, Regulating a

Nation: Socialist Cybernetics in Allende's Chile," to be published in *J. Latin American Studies*, May 2006; E. Miller-Medina, "The State Machine: Politics, Ideology and Computation in Chile, 1964–1973," doctoral dissertation, Program in Science, Technology, and Society, Mass. Inst. of Technology, 2005.

2. J.A. Gúzman, "Proyecto Synco: El Sueño Cibernético de Allende [Allende's Cybernetic Dream]," *Clinic*, vol. 5, July 2003, pp. 5-8; F. Flores, "Fernando Flores Habla sobre el Proyecto Synco [Fernando Flores Talks about Project Cybersyn]," *Clinic*, vol. 5, July 2003, p. 9.
3. For example, see C. Rolle, ed., *1973 La vida cotidiana de un año crucial [1973: The Daily Life of a Crucial Year]*, Editorial Planeta, 2003.

Readers may contact Eden Medina at edenm@indiana.edu.



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