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Project Cybersyn

Project Cybersyn was a Chilean project from 1971 to 1973 during the presidency of Salvador Allende aimed at constructing a distributed decision support system to aid in the management of the national economy. The project consisted of four modules: an economic simulator, custom software to check factory performance, an operations room, and a national network of telex machines that were linked to one mainframe computer.[2]

A 3D render of the Operations Room (or Opsroom): a physical location where economic information was to be received, stored, and made available for speedy decision-making. It was designed in accordance with Gestalt principles in order to give users a platform that would enable them to absorb information in a simple but comprehensive way.[1]

Project Cybersyn was based on viable system model theory approach to organizational design, and featured innovative technology at its time: it included a network of telex machines ('Cybernet') in state-run enterprises that would transmit and receive information with the government in Santiago. Information from the field would be fed into statistical modeling software ('Cyberstride') that would monitor production indicators, such as raw material supplies or high rates of worker absenteeism, in “almost” real time, alerting the workers in the first case and, in abnormal situations, if those parameters fell outside acceptable ranges by a very large degree, also the central government. The information would also be input into economic simulation software ('CHECO', for CHilean ECOnomic simulator) that the government could use to forecast the possible outcome of economic decisions. Finally, a sophisticated operations room ('Opsroom') would provide a space where managers could see relevant economic data, formulate feasible responses to emergencies, and transmit advice and directives to enterprises and factories in alarm situations by using the telex network.

The principal architect of the system was British operations research scientist Stafford Beer, and the system embodied his notions of organisational cybernetics in industrial management. One of its main objectives was to devolve decision-making power within industrial enterprises to their workforce in order to develop self-regulation of factories.

After the military coup on September 11, 1973, Cybersyn was abandoned, and the operations room was destroyed.[3]

Name

The project’s name in English ('Cybersyn') is a portmanteau of the words 'cybernetics' and 'synergy'. Since the name is not euphonic in Spanish, in that language the project was called *Synco*, both an initialism for the Spanish *Sistema de INformación y COntrol*, (‘system of information and control’), and a pun on the Spanish *cinco*, the number five, alluding to the five levels of Beer’s viable system model.[4]

Implementation

Stafford Beer was a British consultant in management cybernetics. He also sympathized with the stated ideals of Chilean socialism of maintaining Chile's democratic system and the autonomy of workers instead of imposing a USSR-style system of top-down command and control. Beer also was reported to have read and been influenced by Leon Trotsky's critique of the Soviet bureaucracy in preparation for his design of the system in Chile.[5]

In July 1971, Fernando Flores, a high-level employee of the Chilean Production Development Corporation (CORFO) under the instruction of Pedro Vuskovic,[4] contacted Beer for advice on incorporating Beer's theories into the management of the newly nationalized sector of Chile's economy. Beer saw this as a unique opportunity to implement his ideas on a national scale. More than offering advice, he left most of his other consulting business and devoted much time to what became Project Cybersyn. He traveled to Chile often to collaborate with local implementors and used his personal contacts to secure help from British technical experts.

The implementation schedule was very aggressive, and the system had reached its prototype stage in 1972.[4] The Cybersyn system was used effectively in October 1972, when about 40,000 truck owners took strike action on a national-scale.[6] Because of the network of telex machines in factories across Chile the government of Salvador Allende was able to rely on real-time data and was able to respond to the changing strike situation.[7] According to technology historian Eden Medina, the total costs of the economic simulator amounted to £5,000 at the time of design ($38,000 in 2009 dollars).[8]

The telex network enabled communication across regions and the maintenance of distribution of essential goods across the country.[9] According to Gustavo Silva, then the executive secretary of energy in CORFO, the system's telex machines helped organize the transport of resources into the city with only about 200 trucks driven by strike-breakers, lessening the potential damage caused by the 40,000 striking truck drivers.[4]

The strike actions against the Allende government was funded by the United States as part of an economic warfare. The elected Allende government survived in part due to the Cybersyn system. Eventually the Allende government was brought down by a CIA-supported coup d'état in 1973.[7] Oppressive regimes, including those based in Brazil and South Africa, expressed interest in building up their own Cybersyn system. In the history of computing hardware, Project Cybersyn was a leap and computation has since been developed within an economic and political context, so that computation was no longer put exclusively to work by the military or scientific institutions.[10]

System

There were 500 unused telex machines bought by the previous government. Each was put into a factory. In the control centre in Santiago, each day data coming from each factory (several numbers, such as raw material input, production output and number of absentees) were put into a computer, which made short-term predictions and necessary adjustments. There were four levels of control (firm, branch, sector, total), with algedonic feedback. If one level of control did not remedy a problem in a certain interval, the higher level was notified. The results were discussed in the operations room and a top-level plan was made. The network of telex machines, called 'Cybernet', was the first operational component of Cybersyn, and the only one regularly used by the Allende government.[4]

The software for Cybersyn was called 'Cyberstride', and used Bayesian filtering and Bayesian control. It was written by Chilean engineers in consultation with a team of 12 British programmers.[11] Cybersyn first ran on an IBM 360/50, but later was transferred to a less heavily used Burroughs 3500 mainframe.[4]

The futuristic operations room was designed by a team led by the interface designer Gui Bonsiepe. It was furnished with seven swivel chairs (considered the best for creativity) with buttons, which were designed to control several large screens that could project the data, and other panels with status information, although these were of limited functionality as they could only show pre-prepared graphs. This consisted of slides.[12]

The project is described in some detail in the second edition of Stafford Beer's books 'Brain of the Firm' and 'Platform for Change'. The latter book includes proposals for social innovations such as having representatives of diverse 'stakeholder' groups into the control centre.

A related development was known as the Project Cyberfolk, which allowed citizens to send information about their moods to the Project organizers.[13]

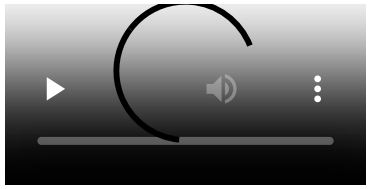
Illustrations of the Operations Room

Left to right: the magnetic “Panel of the Future”, two slide screens, and “Staffy”, the remindere of the Viable Systems Model

Left to right: “Staffy”, the two “algedonic displays” and the four-screen Data Feed

Close-up of the data Feed

The two “algedonic displays”, the four-screen Data Feed, and the black board. The control panels on the armrests are also visible.



Panoramic video of the room

Aesthetics

The Ops room used Tulip chairs similar to those used in the American science fiction TV show *Star Trek*, although according to the designers, the style was not influenced by science fiction movies.[14]

Legacy

Computer scientist Paul Cockshott and economist Allin Cottrell referenced Project Cybersyn in their 1993 book *Towards a New Socialism*, citing it as an inspiration for their own proposed model of computer-managed socialist planned economy.[15] *The Guardian* in 2003 called the project “a sort of socialist internet, decades ahead of its time”.[3]

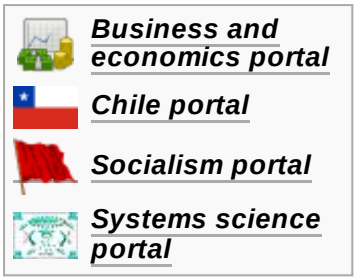
Authors Leigh Phillips and Michal Rozworski also dedicated a chapter on the project in their 2019 book *The People's Republic of Walmart*. The authors presented a case to defend the feasibility of a planned economy aided by contemporary processing power used by large organizations such as Amazon, Walmart and the Pentagon. The authors, however, question whether much can be built on Project Cybersyn in particular, specifically, "whether a system used in emergency, near–civil war conditions in a single country —covering a limited number of enterprises and, admittedly, only partially ameliorating a dire situation—can be applied in times of peace and at a global scale" especially as the project was never completed due to the military coup in 1973, which was followed by economic reforms by the Chicago Boys.[16]

Chilean science fiction author Jorge Baradit published a Spanish-language science fiction novel *Synco* in 2008. It is an alternate history novel set in a 1979 after a military coup was stopped and "the socialist government consolidates and creates 'the first cybernetic state, a universal example, the true third way, a miracle'."[17] Baradit's novel imagines the realized project as an oppressive dictatorship disguised as a bright utopia.[18] In defence of the project, former operations manager of Cybersyn Raul Espejo wrote: "the safeguard against any technocratic tendency was precisely in the very implementation of CyberSyn, which required a social structure based on autonomy and coordination to make its tools viable. […] Of course politically it was always possible to use information technologies for coercive purposes however that would have been a different project, certainly not SYNCO".[19]

In a 2014 essay for *The New Yorker*, technology journalist Evgeny Morozov argued that Cybersyn helped pave the way for big data and anticipated how Big Tech would operate, citing Uber's use of data and algorithms to monitor supply and demand for their services in real time as an example.[13] In July 2023, Morozov would go on to produce a nine-part podcast about Cybersyn, Stafford Beer and the group around Salvador Allende, titled 'The Santiago Boys'.[20]

In October 2016, the podcast 99% Invisible produced an episode about the project.[21] The *Radio Ambulante* podcast covered some history of Allende and the Cybersyn project in their 2019 episode *The Room That Was A Brain*.[22]

See also



- Alexander Kharkevich, the director of the Institute for Information Transmission Problems in Moscow (later Kharkevich Institute)[23]
- Comparison of system dynamics software
- Critique of political economy
- Cyberocracy
- Cybernetics in the Soviet Union
- Economic calculation debate
- Economic planning
- Enterprise resource planning
- Fernando Flores

- Victor Glushkov (1923–1982) Soviet mathematician and founding father of Soviet cybernetics
- History of Chile
- History of computer hardware in Eastern Bloc countries
- Material balance planning
- OGAS
- Planned economy
- Socialist democracy
- Scientific socialism
- System dynamics
- Viable system model

References

1. "Opsroom" (https://web.archive.org/web/20130423080501/http://www.cybersyn.cl/ingles/cybersyn/opsroom.html#%7CCybernetic-Synergy,). *Cybersyn Chile*. Archived from the original (http://www.cybersyn.cl/ingles/cybersyn/opsroom.html#%7CCybernetic-Synergy,) on April 23, 2013. Retrieved May 9, 2013.
2. "IU professor analyzes Chile's 'Project Cybersyn' " (https://web.archive.org/web/20090910060602/http://newsinfo.iu.edu/web/page/normal/11088.html). UI News Room. Archived from the original (http://newsinfo.iu.edu/web/page/normal/11088.html) on September 10, 2009. Retrieved May 27, 2013.
3. Beckett, Andy (September 8, 2003). "Santiago dreaming" (https://www.theguardian.com/technology/2003/sep/08/sciencenews.chile). *The Guardian*. ISSN 0261-3077 (https://www.worldcat.org/issn/0261-3077). Archived (https://web.archive.org/web/20220603175742/https://www.theguardian.com/technology/2003/sep/08/sciencenews.chile) from the original on June 3, 2022. Retrieved June 25, 2021.
4. Medina, Eden (August 19, 2006). "Designing Freedom, Regulating a Nation: Socialist Cybernetics in Allende's Chile" (https://web.archive.org/web/20191124133800/http://www.cybersyn.cl/imagenes/documentos/textos/Eden%20Medina%20JLAS%202006.pdf) (PDF). *Journal of Latin American Studies*. Cambridge University Press. **38** (3): 571–606. doi:10.1017/S0022216X06001179 (https://doi.org/10.1017%2FS0022216X06001179). ISSN 0022-216X (https://www.worldcat.org/issn/0022-216X). S2CID 26484124 (https://api.semanticscholar.org/CorpusID:26484124). Archived from the original (http://www.cybersyn.cl/imagenes/documentos/textos/Eden%20Medina%20JLAS%202006.pdf) (PDF) on November 24, 2019.
5. Medina, Eden (January 10, 2014). *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile* (https://books.google.com/books?id=VBC3AgAAQBAJ&dq=Stafford+beer+Trotsky&pg=PA292). MIT Press. p. 292. ISBN 978-0-262-52596-1.
6. Medina, Eden (January 10, 2014). *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile* (https://books.google.com/books?id=VBC3AgAAQBAJ&q=Cybernetic+revolutionaries). MIT Press. p. 141. ISBN 978-0-262-52596-1.
7. Curran, James; Hesmondhalgh, David, eds. (2019). *Media and society*. New York, London, Oxford, New Delhi, Sydney: Bloomsbury Academic. p. 8. ISBN 978-1-5013-4075-8.
8. Medina, Eden (January 10, 2014). *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile* (https://www.google.co.uk/books/edition/Cybernetic_Revolutionaries/VBC3AgAAQBAJ?hl=en&gbpv=1&dq=cybernetic+revolutionaries&printsec=frontcover). MIT Press. p. 82. ISBN 978-0-262-52596-1.

9. Medina, Eden (January 10, 2014). *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile* (https://books.google.com/books?id=VBC3AgAAQBAJ&q=Cybernetic+revolutionaries). MIT Press. p. 141. ISBN 978-0-262-52596-1.
10. Bottazzi, Roberto (May 31, 2018). *Digital architecture beyond computers: fragments of a cultural history of computational design*. Bloomsbury Publishing. ISBN 978-1-4742-5816-6.
11. "Project Cybersyn" (https://web.archive.org/web/20170303022158/http://varnelis.net/blog/kazys/project_cybersyn). *Varnelis.net*. Archived from the original (http://varnelis.net/blog/kazys/project_cybersyn) on March 3, 2017. Retrieved July 13, 2006.
12. Medina, Eden. "Interview Eden Medina over Project Cybersyn" (https://www.youtube.com/watch?v=fSmQCvfT4pU&list=PLVbT2NExCO8Svz-MH25VEFKNf-TbyViSq&index=9). *VPRO Tegenlicht*. Archived (https://web.archive.org/web/20160310115115/https://www.youtube.com/watch?v=fSmQCvfT4pU&list=PLVbT2NExCO8Svz-MH25VEFKNf-TbyViSq&index=9) from the original on March 10, 2016. Retrieved December 14, 2015.
13. Morozov, Evgeny (October 6, 2014). "The Planning Machine" (https://www.newyorker.com/magazine/2014/10/13/planning-machine). *The New Yorker*. ISSN 0028-792X (https://www.worldcat.org/issn/0028-792X). Archived (https://web.archive.org/web/20201108143110/https://www.newyorker.com/magazine/2014/10/13/planning-machine) from the original on November 8, 2020. Retrieved November 26, 2020.
14. Medina, Eden (2011). *Cybernetic revolutionaries: technology and politics in Allende's Chile*. Cambridge, Massachusetts: MIT Press. Section 4, p. 121. ISBN 978-0-262-01649-0.
15. Cockshott, William Paul; Cottrell, Allin (1993). *Towards a new socialism*. Nottingham: Spokesman Books. p. 99. ISBN 978-0-85124-545-4.
16. Phillips, Leigh; Rozworski, Michal (March 5, 2019). *The people's republic of Walmart: how the world's biggest corporations are laying the foundation for socialism*. Jacobin series. Verso Books. p. 230. ISBN 978-1-78663-516-7.
17. Edwards Renard, Javier (January 4, 2009). "Synco: El juego del revés" (https://web.archive.org/web/20180428181120/http://diario.elmercurio.com/detalle/index.asp?id=%7Ba839867c-96ee-480f-adf1-c20192023048%7D) [Synco: The Game of Reverse]. *El Mercurio Revista de Libros* (in Spanish). Archived from the original (http://diario.elmercurio.com/detalle/index.asp?id={a839867c-96ee-480f-adf1-c20192023048}) on April 28, 2018. Retrieved April 27, 2018.
18. Saldías, Gabriel A. (December 1, 2018). "Remembering a Socialist Future in Postdictatorship Chile: Utopian Anticipation and Anti-utopian Critique in Jorge Baradit's Synco" (https://scholarlypublishingcollective.org/psup/utopian-studies/article/29/3/398/211278/Remembering-a-Socialist-Future-in-Postdictatorship). *Utopian Studies*. **29** (3): 398–416. doi:10.5325/utopianstudies.29.3.0398 (https://doi.org/10.5325%2Futopianstudies.29.3.0398). ISSN 1045-991X (https://www.worldcat.org/issn/1045-991X). S2CID 150310898 (https://api.semanticscholar.org/CorpusID:150310898). Archived (https://web.archive.org/web/20230802233745/https://scholarlypublishingcollective.org/psup/utopian-studies/article-abstract/29/3/398/211278/Remembering-a-Socialist-Future-in-Postdictatorship?redirectedFrom=fulltext) from the original on August 2, 2023. Retrieved August 25, 2022.
19. Espejo, Raul (February 5, 2009). "Syncho: CyberSyn" (https://syncho2.blogspot.com/2009/02/cybersyn.html). *Syncho*. Archived (https://web.archive.org/web/20230307021834/https://syncho2.blogspot.com/2009/02/cybersyn.html) from the original on March 7, 2023. Retrieved August 25, 2022.
20. "The Santiago Boys" (https://the-santiago-boys.com/). *Post-Utopia* (Podcast). July 22, 2023. Archived (https://web.archive.org/web/20230804184420/https://the-santiago-boys.com/) from the original on August 4, 2023. Retrieved August 3, 2023.

21. Mars, Roman; Mingle, Katie (October 4, 2016). "Project Cybersyn" (https://99percentinvisible.org/episode/project-cybersyn/). *99% Invisible* (Podcast). Archived (https://web.archive.org/web/20191230221942/https://99percentinvisible.org/episode/project-cybersyn/) from the original on December 30, 2019. Retrieved December 20, 2019.
22. Alarcón, Daniel (September 17, 2019). "The Room That Was A Brain" (https://radioambulante.org/en/audio-en/the-room-that-was-a-brain). *Radio Ambulante* (Podcast). Archived (https://web.archive.org/web/20190924145936/https://radioambulante.org/en/audio-en/the-room-that-was-a-brain) from the original on September 24, 2019. Retrieved August 3, 2023.
23. "Organisations: Institute for Information Transmission Problems of the Russian Academy of Sciences (Kharkevich Institute), Moscow, Russia" (https://www.mathnet.ru/php/organisation.phtml?orgid=5026&option_lang=eng). *All-Russian Mathematical Portal*. Archived (https://web.archive.org/web/20210414104007/http://www.mathnet.ru/php/organisation.phtml?option_lang=eng&orgid=5026) from the original on April 14, 2021. Retrieved March 24, 2021.

External links

- Eden Medina, "Cybernetic Revolutionaries: Technology and Politics in Allende's Chile", (Cambridge, Massachusetts: MIT Press, 2011). (http://www.cyberneticrevolutionaries.com/) Archived (https://web.archive.org/web/20170516225801/http://www.cyberneticrevolutionaries.com/) May 16, 2017, at the Wayback Machine
- Eden Medina, "Designing Freedom, Regulating a Nation: Socialist Cybernetics in Allende's Chile." Journal of Latin American Studies 38 (2006):571-606. (http://informatics.indiana.edu/edenm/EdenMedinaJLASAugust2006.pdf) Archived (https://web.archive.org/web/20170627154712/https://www.informatics.indiana.edu/edenm/EdenMedinaJLASAugust2006.pdf) June 27, 2017, at the Wayback Machine(pdf)
- Eden Medina, "Cybernetic Revolutionaries: Technology and Politics in Allende's Chile" (adapted excerpt). *Cabinet* magazine, no. 46 (Summer 2012). (https://www.cabinetmagazine.org/issues/46/medina.php)
- Lessons of Stafford Beer (https://web.archive.org/web/20050501235357/http://ototsky.mgn.ru/it/lessons.htm)
- The CeberSyn heritage in the XXI Century (https://web.archive.org/web/20101206075303/http://www.ototsky.mgn.ru/it/presentations/To_Metaphorum2010.htm)
- The CyberSyn multimedia "reconstruction" (http://www.cybersyn.cl/ingles/cybersyn/index.html)
- Before ’73 Coup, Chile Tried to Find the Right Software for Socialism (https://www.nytimes.com/2008/03/28/world/americas/28cybersyn.html), by Alexei Barrionuevo. 'The New York Times.' March 28, 2008
- The forgotten story of Chile's 'socialist internet' (https://www.theguardian.com/g2/story/0,3604,1037327,00.html)
- Futurism, fictional and science fictional - rambling and inspiring (https://web.archive.org/web/20060517185946/http://www.boingboing.net/2006/05/08/futurism_fictional_a.html) on BoingBoing
- Project Cybersyn | varnelis.net (https://web.archive.org/web/20170303022158/http://varnelis.net/blog/kazys/project_cybersyn)
- Rhizome.org: Project Cybersyn (https://web.archive.org/web/20070301192456/http://www.rhizome.org/fp.rhiz?id=1576)
- Stafford Beer, and Salvador Allende's Internet, and the Dystopian Novel (https://web.archive.org/web/20130801072259/http://www.rhizzone.net/article/2011/12/05/stafford-beer-and-salvador-allendes-internet-and-d/)
- Free As In Beer: Cybernetic Science Fictions (https://vimeo.com/8000921)

- Planning Machine at The New Yorker (http://www.newyorker.com/magazine/2014/10/13/planning-machine)
- Allende's socialist internet at Red Pepper (http://www.redpepper.org.uk/allendes-socialist-internet)
- 'Network Effects: Raul Espejo on Cybernetic Socialism in Salvador Allende's Chile (https://logicmag.io/play/raul-espejo-on-cybernetic-socialism-in-allendes-chile/)', Kristen Alfaro interviews Raúl Espejo for 'Logic'. January 1, 2019.
