

Computer science and technology : historiography IV

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Foreword

The inferno of “peer review” resumes in this volume :

We persevere based on the belief that *all* attempts at creating - what we have called - an external analysis of computer science and technology are welcome, and that they are important in principle: be they sociological or historical in nature, or indeed artist’s perspectives... Although we can not always know about the specific merits of each one, they merit to be mentioned in any case. Whatever we may have to say about them, ultimately, we applaud their authors for their courage. (Includes the minority computer scientists, technologists who are working towards dismantling their own discipline - at least reforming it.)

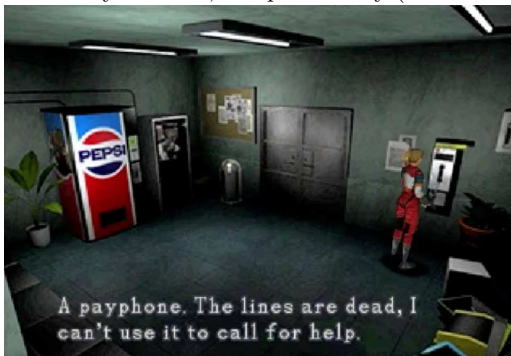
A science as powerful as computer science cannot be left alone as the sole purveyor of its own truth (or, internal analysis in our model, grammar).

PAPERS, ARTICLES

— Cath, Corinne. 2021. “The technology we choose to create: Human rights advocacy in the Internet Engineering Task Force” *Telecommunications Policy* 45(6)
Ethnography of the IETF.

— About community restoration of canceled, commercial software
“Raising the Dead. How Fans Are Trying to Save Resident Evil 1.5”, *Kotaku* 2015.
“How the never released Resident Evil 1.5 survived 22 years...”, *Gamesradar* 2018.
“The 15-year hunt for Resident Evil 1.5” *Eurogamer* 2019.

Extremely detailed, complementary (but also contradictory?, e.g. price) reporting.



It featured “Elza Walker, a motorcycle racing university student; (...) and a boss called Golgotha that according to developer notes on concept art had the face of Wesker on its tail. No one knows why.”

— Borland, John. 2010. ”Hacking the Hacker Stereotypes”. *Wired*, 30/12.
On Haecksen.

LIT., FILM...

— Gibson. 1982. “Burning Chrome”. *Omni*, July. circa 6 pages.

Arguably Gibson’s most important writing. In the same short story: ”cyberspace” and ”the street finds its own uses for things.” [Not to be confused with the later collected volume, containing it.]

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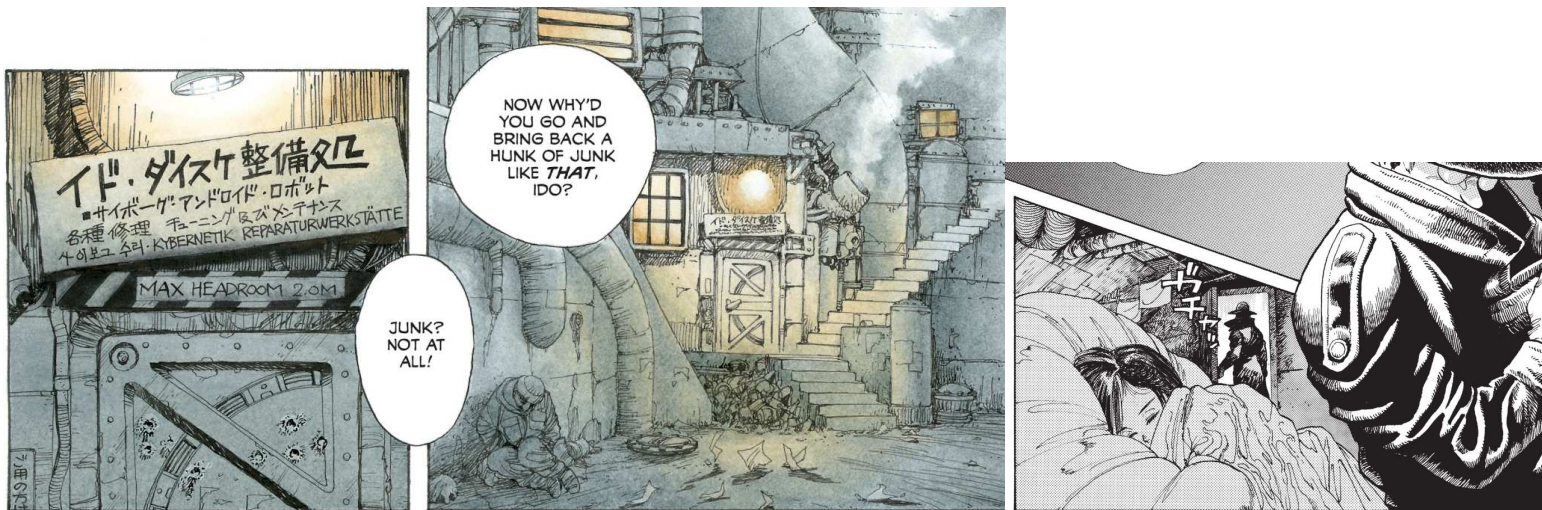
— Gibson. 1981. “The Gernsback Continuum”. In: *Universe 11*, Doubleday. circa 10 pages.

“And Cohen, whom I knew vaguely from the old days in New York, had invited me to lunch the day before I was due out of Heathrow. He brought along a very fashionably dressed young woman named Dialta Downes...”

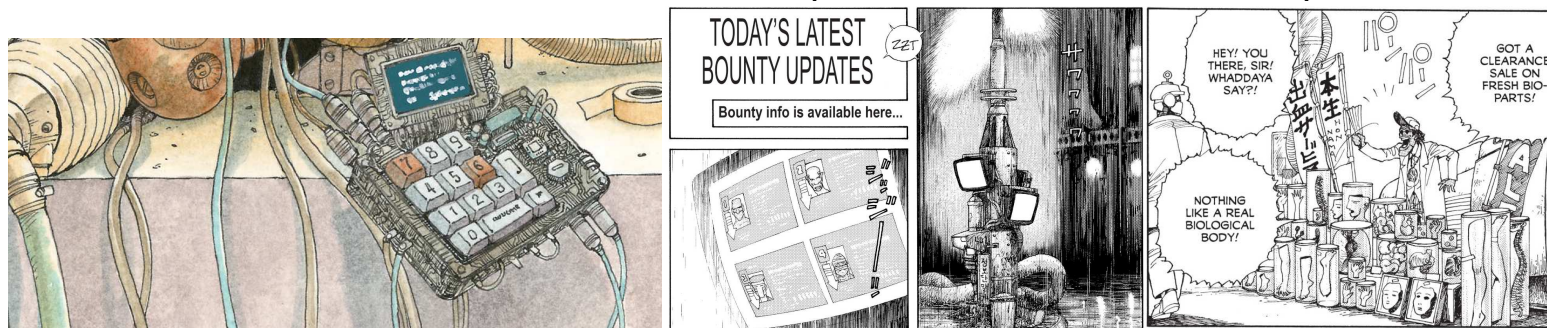
— Leandro, Tim. 1993. *Tomorrow Calling*. circa 12 minutes.

Fascinating short film adaptation of ”The Gernsback Continuum”. Deserves a much broader audience. Can be classified as work of (British) ”afro futurism”. [Colin Salmon, playing the protagonist, achieved commercial success, but see 1995’s *Frantz Fanon*; Don Henderson acted in *Star Wars* (1977) and *Brazil*; Toyah Willcox: Jarman’s *The Tempest* Miranda – e.g.]





サイボーグ. アンドロイド. ロボット and Kybernetik Reparaturwerkstätte [cyborg, android, robot. cybernetics workshop]



II. manga (vol. 1, 2)

II. anime adaptation



Characters live in a dystopian (Gibson like) world: the scientist-engineer incarnates the figure of hacker or the cyberpunk : in the world's trash, pollution [1,3], he finds new uses e.g. materials for selling. repairing, replacement, or passion projects... A satchel holds his (hacker) tools, pliers among others [2]. Another means of survival - typical of cyberpunk - is bounty hunting [8] or the sale of body parts incl. one's own. Wars catastrophes or poverty create supply, candidates with little-to-no choice.

— Ferrara, Abel. *New Rose Hotel* (1998)

In this adaptation, a zaibatsu genre story with one too many sex scenes, the neo dame adapted from film noir (black and red leather outfit, smoking), Mitnick-inspired bank hacking ("account unknown"), biometrics, PDAs, Midwestern capsule hotels, Apple credits etc.. Fairly typical of New York movies shot around that time [between *Hackers* and *Hamlet* 2000].



BOOKS, PAPERS, ARTICLES

— "Remembering the Apple Newton's Prophetic Failure and Lasting Impact". *Wired*, 05/08/2013.
per the author,

"Looking to maximize battery life, the Newton team[’s best bet] looked to be an ARM chip. Apple owned a third of the company at the time and directed development of the ARM6 processor that went into the Newton. Without the Newton, that technology could have died on the vine. But the real impact of the Newton was the thinking that took the computer out of the office. Today, the PDA is with us all the time. We don’t use a stylus, though (...) It’s our smartphone, and the whole concept of the smartphone was that it would bundle the PDA, the camera, the MP3 player, and the cell phone."

— *Hackerbibel*. 1980s. 2 volumes.

A collection of writings by Chaos Computer Club (e.g. the first volume includes early Datenschleuder issues at the end). Important document for those studying computer science and technology in a European context : texts, programs, images... Marketing based on the infamous, and perhaps ironic, perhaps not, phrase '*teils laengst vergriffen*'.

— Levy, Steven. 1993. "Crypto Rebels". *Wired*.

The classic article on cypherpunks [as they were organized in the first half of the 1990s]. The "crypto rebels" were described, more broadly, as "a swelling movement of Cypherpunks, civil libertarians, and millionaire hackers."

"As Sun Microsystems employee number five, Gilmore retired with a bankroll in the millions. Later, he had the opportunity not only to co-found a new company—called Cygnus (...)

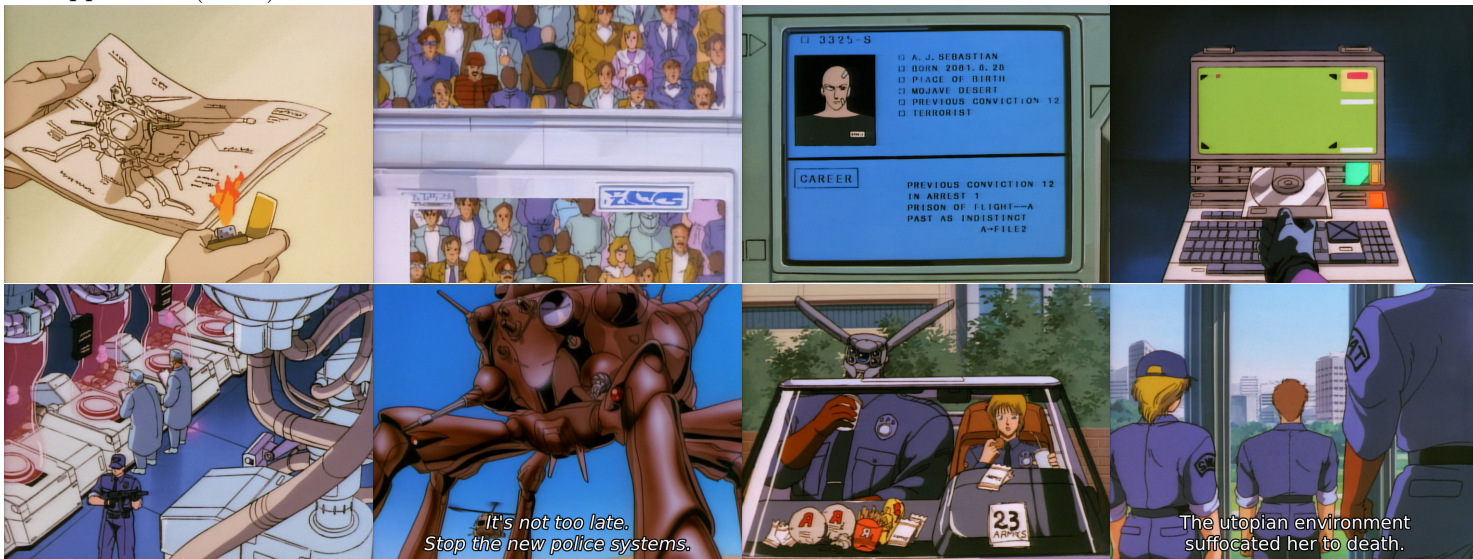
Gilmore's first major coup was the distribution of a paper written by a Xerox cryptographer that the NSA had convinced Xerox not to publish. Gilmore posted the document on the Net, and within hours, thousands of people had a copy.

Gilmore's next action was to challenge the NSA's refusal to follow Freedom of Information Act (FOIA) protocols in releasing requested documents. The documents he sought were 30-year-old manuals written by William F. Friedman, the father of American cryptography. These seminal textbooks had been declassified, but later, for undisclosed reasons, reclassified. The NSA did not respond to Gilmore's request for their release within the required time-frame, so he took them to court. Meanwhile, a friend of Gilmore discovered copies of two of the documents: one in the Virginia Military Institute Library, the other on microfilm at Boston University. The friend gave copies to Gilmore, who then notified the judge hearing the FOIA appeal that the secret documents were actually on library shelves.

It was then that the government notified Gilmore that distribution of the Friedman texts would violate the Espionage Act, which dictated a possible ten-year prison sentence (...)"

LIT., FILM...

— *Appleseed* (1988)



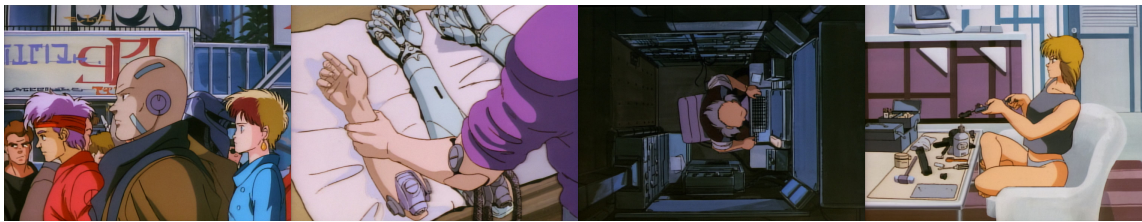
Details : [2] (failed) surveillance [3] File: "Terrorist" [6] "Stop the new police systems"

A general note, independently from this particular work [although not without relationship either]: when someone is labeled "terrorist" it is consistently *significantly* more complicated. Whenever this keyword appears, in fiction and even more so in reality, all abilities possessed for critical thinking should be working as if in some alarm mode. "Terrorist" is the equivalent in language, or linguistics of a nuclear attack on the human faculties and 'normally' functioning people.

For those who have read Masamune Shirow's oeuvre, many aspects of this film will appear familiar : for instance, the melange of serious and light-hearted content [e.g. the American hamburger and fries scene] or, what we can only call, the "typical Shirow female", meaning light in clothing and skilled in arms.

Among darker subjects are the inaugural suicide scene (at the beginning in this adaptation). The person most affected by it later states in a memorable sequence (again, conforming to Shirow's ability to mix deep philosophical moments with occasional downright goofy details) : "*She committed suicide. She couldn't adjust to this city. The utopian environment suffocated her to death.*"

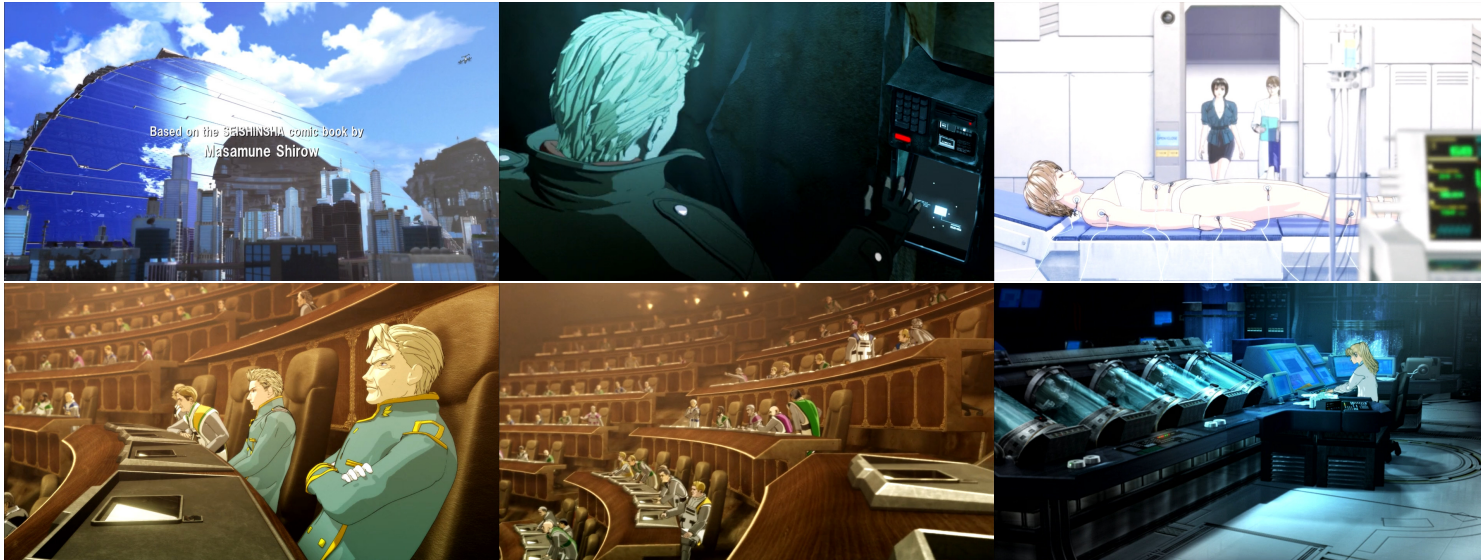
The story itself starts with, also striking lines : "*Inside the cages they've built for themselves...*", over a background of a superficially idyllic skyline (Seattle, comes to mind).



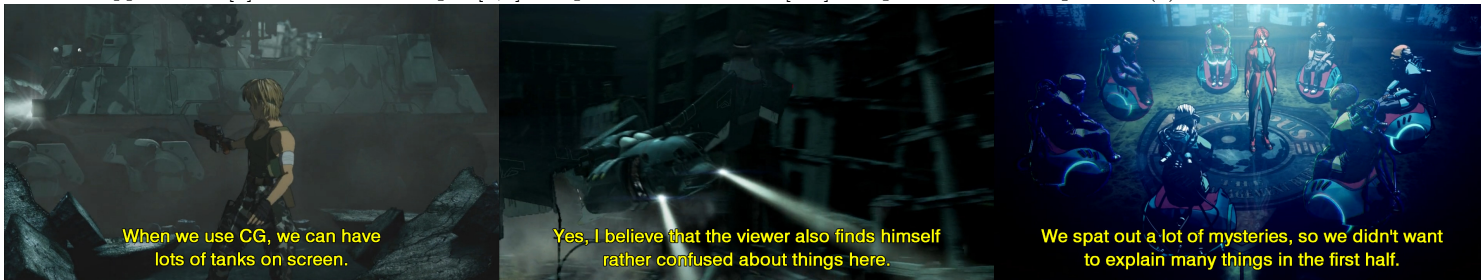
II. [4] "typical Shirow female" character

Famous Japanese animation studio Gainax is behind it. In 2004, a new film was made that is a testament to the CG, i.e. computer graphics, craze which took over that industry in the early 2000s. It has the appearances of action fests, yet has interesting bits. [Even the comment track narrator regularly admits confusion but in their view it's purposeful/good.]

During the political confrontation where martial law is announced among major changes, [50m], a General rebukes "It is my understanding that the technology to restore Bioroid reproductive functions vanished when its inventor, Dr. Gilliam, destroyed the original data." Answer : "we have learned that the data, named Appleseed, still exists."



II. 2004 *Appleseed* : [2] biometrics example [3,6] computerized medicine [4-5] computer-interfaced politics (?)



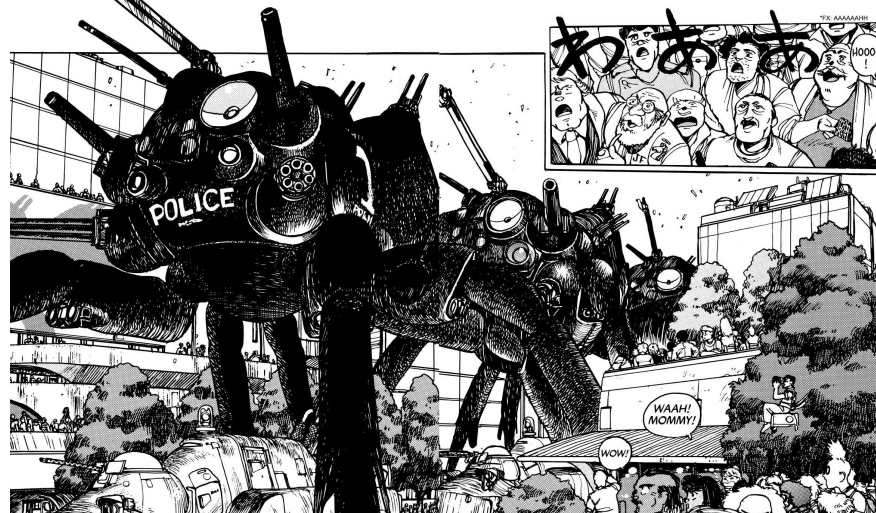
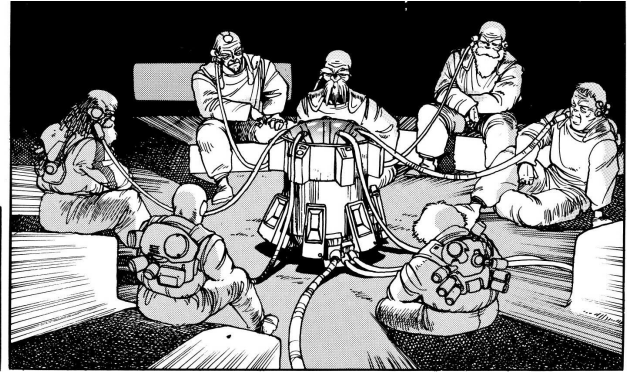
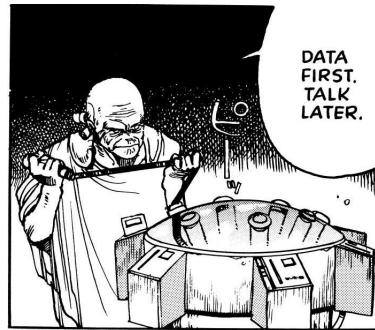
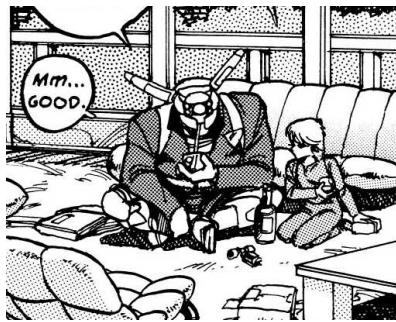
As for the philosophical premises of this work, they are best found in the original manga by Shirow. (After the tragedy of WW3, a society run by perfected beings emerged - old humans, like "old nations", could not be trusted.)

"The time is early in the twenty-second century. The earth has been unified under AEGIES, a central management bureau run exclusively by BIOROIDS (Enhanced artificial humans). Under the benevolent yet watchful eye of Aegis the old nations are rushing to rebuild from the destruction wrought by the third world war. Yet people still pause sometimes to wonder how the war really began - and dark clouds have begun to gather over Aegis itself..." [Introduction vol. 2 - 1 not as useful]

Another source that can be used is the prologue to the English-language version of the 1988 film,

"In the aftermath of World War 3 a group known as GENERAL MANAGEMENT CONTROL OFFICE formed in order to rebuild and unify the ruined world. They constructed an experimental model city: it was named OLYMPUS. The new city was a sanctuary for surviving humanity. It was also home to a new sub species - half human, half robot beings called BIOROIDS. The Bioroids were responsible for all aspects of administration. This experimental city was meant to finally represent all mankind's utopian dreams. Dreams which underestimated the eternal human desire for absolute freedom."

Manga vol. 1 is about life in the desolate, brutal world left over by the latest great war (a Hobbesian, pre-contract world), sanctuary first impressions; Vol. 2 deals with daily life and government in Olympus, the police force (joined by the protagonists) and the model city's darker side. [See also the individual volumes' backcovers for additional quick information.]



II. *Appleseed* manga : [1] Deunan and Briareos (the protagonists). vol. 1 [above], 2 [b.]

Here we find echoes of Shirow's other work, *Ghost in the Shell*. Not reproduced as part of the selection are art showcasing Shirow's humour (e.g. the very first pages, a bad cook), or the occasional nudity; acting as counterbalance to the above.

COMPUTER SCIENCE AND MEDICINE

— Rajkomar et al.. 2019. "Machine Learning in Medicine" *The New England Journal of Medicine* 380(14)

A review article. Its authors conclude : "***The accelerating creation of vast amounts of health care data will fundamentally change the nature of medical care.***" They go on to express their hope that, in the

"not-too-distant future when all medically relevant data used by millions of clinicians to make decisions in caring for billions of patients are analyzed by machine-learning models to assist with the delivery of the best possible care to all patients."

At this point it appears relevant to mention that the authors have for affiliation : 'Google, Mountain View, CA' and 'the Department of Biomedical Informatics, Harvard Medical School, Boston' -in that order.

— Ed.. 1997. "The Internet in Medicine" *International Journal of Medical Informatics* 47.

"We are currently experiencing a paradigm shift (...) The medical science and profession have not been left out of these developments. The Internet in Medicine, which started merely as an academic curiosity, became an important area of interest for health professionals and researchers. 'Like the stethoscope or coat-pocket handbook, the Internet is a tool that promises to extend our experience and complement existing abilities to learn and practice medicine' "

— Obermeyer, Ziad and Lee, Thomas. 2017. “Lost in thought: The limits of the human mind and the future of medicine” *he New England Journal of Medicine* 377(13)

“In the good old days, clinicians thought in groups; ‘rounding,’ whether on the wards or in the radiology reading room (...) **The complexity of medicine now exceeds the capacity of the human mind.** Computers, far from being the problem, are the solution.”

Affiliation : ‘Harvard Medical School, Boston’ [At least you know where your manga and anime future is going to come from, and it’s unlikely going to be Missouri...]

ECONOMISTS AND TECHNOLOGY

— Krugman, Paul. 1996. “White Collars Turn Blue” *New York Times*, Sep. 29th.

”third-world families that finally began to have some purchasing power when the 20th century ended did not want to watch pretty graphics on the Internet.”

— Krugman, Paul. 1998. “Why most economists’ predictions are wrong.” *Red Herring*, June.

”The growth of the Internet will slow drastically, as the flaw in ”Metcalf’s law”—which states that the number of potential connections in a network is proportional to the square of the number of participants—becomes apparent”
redherring.com/mag/issue55/economics.html

— Marx, Karl. *Kapital* I.

”Technology” - in the broad sense (the narrow sense being computer technology, currently) - is found throughout but of particular importance is chapter ‘Machinery and Large-Scale Industry’, a good mix of data and explanations, theory.

”improvements in machinery and (...) corresponding displacement of manual labour (...) A couple of examples from the *Reports of the Inspectors of Factories* (...) A Manchester manufacturer states : ‘We formerly had 75 carding engines, now we have 12, doing the same quantity of work ... We are doing with fewer hands (...) saving in wages”

In that chapter, see e.g. statistics on spindles and looms quantities, and worker numbers.

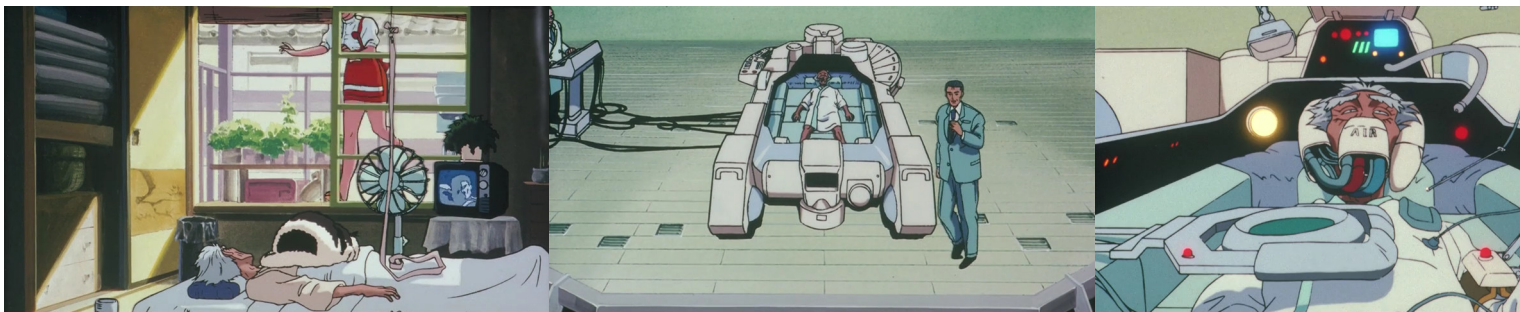
— Varoufakis, Yanis. 2020. *Another Now*.

About HALPEVAM (and its more mysterious consequences), presented as the opposite of *The Matrix*.

ANIME AND TECHNOLOGY

Children movies (clearly not as predictive, serious as economics).

— *Roujin Z* (1991)



Screenplay : Otomo. Director's other works : Robot Carnival segment, e.g..

A film that could be described superficially as being about an old man's fight against an electronically advanced geriatric bed, or an oddly specific topic. Centers on a young nurse whose idealism stands in contrast with the hubris of a Public administrator who thinks that a new generation of computer is the key to solving the social issue of care for a growing elderly population : " *Within a decade we can solve all of our problems*", he's certain. Z is the model of the "6th gen." computer in question.

As problems arise, (as they inevitably do in such contexts), a colleague inquires where the money came from; a good question, generally; " *The computer was donated by the Nishibashi Corporation.*"

Finally, that voice of reason asks the fundamental question, namely : " *How can we evaluate a machine that we don't even understand?*" [25m]

NEWS ARTICLES

— Reuters. 2021. "Tesla moving headquarters to Texas from California" Oct. 9.

Texas: the new home of disaffected California entrepreneurs. Even though these companies are very creative - if only there - in the marketing explaining their sudden preference for Texas (the sun shines brighter there, the chili sauce is better, ...), it's the low taxes, the lack of regulation etc.. [Which the journalists, bless their soul, also dare to propose.]

— CNN. 2020. "HP, the company that literally started Silicon Valley is moving to Texas" Dec. 2

Oh oh.

— Bloomberg. 2020. "Oracle Moves Headquarters to Texas, Joining Valley Exodus" Dec. 11.

It's the ribs.

PHILOSOPHY AND TECHNOLOGY

Among producers of external analyses of computer science and technology are, of course, philosophers. Technologists, who flatter themselves by saying they enjoy philosophy and -for some reason- diving, should thus really enjoy "diving" into this one,

— Mill, John. *Principles of Political Economy, With Some of Their Applications to Social Philosophy.*

"it is questionable if all the mechanical inventions yet made have lightened the day's toil of any human being. They have enabled a greater population to live the same life of drudgery and imprisonment, and an increased number of manufacturers and others to make fortunes."