Emergence of computers in manga : from public to private sphere, from optimistic futurism to widespread uncritical adoption.

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Broad trends in the representation of computer technology in manga history are described. This analysis is based on major works of the medium, (Umezu's classic horror *The Drifting Classroom* to Umaru-chan's last volume), both pioneering and uncertain, covering roughly the period from 1970 to 2020.

Keywords : art history, manga, capitalism, technology

INTRODUCTION

The Manga is an underappreciated art form, yet highly useful for the scientist, where meta-memories about contemporary culture are preserved and found.

Other than fulfilling the function of telling its own story, the Manga also captures broader changes affecting society :

It is this other, less obvious narration that may be of greatest interest to historians and sociologists.

No different in this regard from the Novel, the Poem or the Painting, the Manga remains nonetheless a grossly underestimated, and grotesquely neglected medium of art history.

In this article we use a selection of well-known titles, picked from various genres in order to attempt an experimental history of the emergence of computers in manga.

We find diverging and evolving receptions of the phenomenon, ranging from optimistic futurism to ignorance to full embrace; and an evolution from public to private sphere appearances.

Context for the importance of selected works :

Of *Azumanga Daioh*, it can be said that it created or further established all of the tropes of the modern slice-of-life / moe genre :

the idiot student (Tomo), the trip to Okinawa (compare with, for instance, *Yotsuba*'s repeated references to this destination), the foreigner asking for information e.g. the train station (compare with the identical scene in *Squid Girl*), the new student from the countryside (*Umaru*'s Ebina, who comes from Akita instead of Osaka, is a Tomo type character, poor grades and all, while Selphin is a Chiyo variation) etc.

Yotsuba's protagonist – the modern classic of the genre - bears an obvious resemblance with Chiyo particularly in the second half when she alters her haircut as she becomes a mature high-school student [e.g. panel 3 in 'Backup failure'], both works share the same author.

The drifting classroom's influence meanwhile can be seen on many of the important works of the horror genre that succeeded it : the other classic, post-apocalyptic manga *Dragon Head* and most openly in the contemporary master of the genre, Junjo Ito (who credits Umezū (first) as inspiration), and all the way to more recent breakthroughs like *I am a hero*.

1. *The Drifting Classroom* : optimistic futurism. [Large-scale computers]

The world in which *The drifting classroom* takes place, published in the 1970s, is very much still that of the Radio and the Television :

No personal computers appear, unless mistaken. (Unclear is which ones would be suited as models for this purpose considering the period described, due to sheer size and prohibitive costs...¹);

It is only in the closing parts of the story that a computer emerges in the form of a large-scale machine.

A place called “Paradise” is the protagonists’ last hope, but full of dangerous robots, starting with a murderous pin-up android.

“Thanks to the wonders of science, you have a great future to look forward to!”, the computer claims.

Located at the exit, the Machine proposes to answer any questions only to rapidly start malfunctioning, and finally breaks down when one of the students

¹Even “small” computers like the PDP-8 or PDP-11 seem implausible.

kicks it, perceiving it as useless in their current predicament.

2. *Azumanga Daioh* : cuteness (‘moe’) and social class... [Personal computers in the public sphere]

In *Azumanga Daioh*, computers start appearing as personal-use computers (instead of the larger ones characteristic of previous generations).

First published during the turn of the last century, almost all of Azumanga’s gags surrounding computers rely on various misunderstandings related to the novelty of the object, tool.²

The story, following the last 3 years of high school of a cohort, has notable features, perhaps most striking its treatment of social class.

Social class, in *Azumanga Daioh*, a classic of the slice-of-life genre, plays a surprisingly big role :

This is noteworthy as any discussions of class or even simply poverty are increasingly ignored, at least among mainstream titles these distinctions are largely ignored – as if non-existent.³

However lack of knowledge of computers does not coincide with social divides exactly.

Computers first appear in two panels which we describe below as an illustration of this :

“P-pet” is an early example where student Sakaki, who adores pets but can’t have them, is left out of a discussion involving the mail service of the same name (which includes feature animals).

²To provide further context, in 1995 only about 5% of the world population has access to the Internet (as one metric among others).

³As counter examples to this absurd trend, (though obviously beneficial to capitalistic ideology), see works associated with Studio Ghibli especially War period pieces, by Takahata or Miyazaki, or less-known family drama. More recently, *Keep Your Hands Off Eizouken!* engaged with class differences by ways of mentioning the issue of allowances (“we’re not rich!” Midori exclaims, who lives in an apartment not a villa, to Tsubame). Compare also, outside of anime and manga, with Ozu’s extremely detailed, sociologically potent films.

Later, sakaki, a tall, athletic girl who secretly nonetheless enjoys cute things, can be seen surfing the web in search of information regarding cats on the library's computer.

Tomo, it is strongly implied, comes from a lower social background :

The difference between her and the other girls becomes overt during the first group visit to Chiyo's house : faced with the immense estate the girl, otherwise extroverted and always cheery, does not know how to act and turns serious.

In addition to a bedroom, Chiyo has a room where she is able to receive guests, a fact which further stuns the other girls.

A student similar to Tomo is Osaka, whose lower origins are additionally expressed by her dialect. Her debut in the manga has her hoping to not earn another reputation as an idiot at her new school.

Tomo also never took a plane, while Yomi and (as one would expect) Chiyo already did.

[Similarly. Chiyo had already gone diving before. cf. 'Sleeping with the fishes'; Tomo cannot afford to go abroad for college, suggested in 'evasion'; Chiyo serves her guests mille feuilles pastry, 'just cause' ...]

The story 'Airport', which sees Tomo declaring "*So, this this is one of those airports I keep hearing about...*", creates as transparent a sociology of the group as possible :

A variety of additional goofs and gaffs ensue implying inadequacy : during lift-off Yomi is embarrassed by the antics of her less experienced comrades, while

Tomo buying souvenirs at the airport is also source of awkwardness (as opposed to buying them at their destination Okinawa).

The first panel, legend “*o have never been on a plane before*”, includes Tomo, Osaka and Kagura - in other words, all the poorly performing students. The other has Chiyo, Sakaki and Yomi, forming their own subgroup within the group.

Another series of panels is dedicated to a discussion of how Tomo was ever able to enter the high-school attended by the girls, considering its good academic reputation.

Chiyo is considered something of a genius (due to skipping classes). Sakaki, another high-achieving student, lives in the same neighborhood as her.

But, even Chiyo, whose parents would be able to afford the new technology, does not know how to use a computer, at least not one equipped with a mouse peripheral. (The fairly straightforward joke being an association with the animal). Once taught however she becomes highly proficient.

Having played only episodic roles for most of the manga's narrative, computers however make a prominent appearance in the ending pages [November special]; with a big impact on its story

By refining her search, Sakaki learns about the death of an Iriomote cat back in Okinawa where her school vacations had occurred :

This story, to which a special is dedicated, occupies a dozen pages many of which involving the computer, the internet and web, and online search databases – then nascent [google is featured].

Azumanga Daioh describes a state of society where computers have not yet entered the private sphere : not found in houses, let alone bedrooms!, they remain for now fairly exceptional and yet mysterious objects that populate public places like libraries (or cafes) instead.

3. From *Yotsuba* to *Umaru* : ubiquitous, everyday devices [Personal computers reach the private sphere]

To offer a point of comparison, we select modern classics of the slice-of-life/moe genre : *Yotsuba* (still running as manga) and *Umaru* (having ended last month in the English translation)...

Here, computers have long left large rooms, public places, and joined the everyday household life.

In *Yotsuba &!*, personal computers are now found in dedicated rooms (i.e. the father's office, in the story) and are closely associated with work. Noteworthy being the fact that Yotsuba's father works remotely.

Hence whenever Yotsuba – 6 years old - sees her father in front of the computer, she knows not to bother him - there is serious business underway!

To spend more time with him, she first sets up her own “office” next to his, and later a dedicated, activity table is bought.[⁴]

Umaru represents an even more advanced stage of the appearance of computers in the household :

a personal computer standing on a desk is used mostly by her brother for work purposes, but a myriad of devices ranging from consoles, both standalone and handheld, and tablets belong to his little sister.

As the the Manga moves forward, this arsenal is updated : a PSP(?) eventually gets replaced by a Switch(?) console.

These changes are not merely cosmetic, or superficial but affect the story. This is most obvious in the last volume :

Late-night trips to the convenience store, in order to buy a famous periodical (Jump), are favored by the girl but strongly opposed by her older brother for safety concerns;

they become useless with the evolution – affecting not only journalism but also manga magazines – towards digitalization. Issues can now be read online...

No sign however of the critique found in earlier works, the adoption of these various machines occur uncritically, arguably only with the exception of stories about addiction e.g. to massive multiplayer games.

The passive adoption of high technology cannot be considered separately from the extreme consumerism, and underlying hyper-capitalism, that is omnipresent in this work.

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CONCLUSION

Are computer science and technology able to provide any of the answers that matter?

A week hardly passes by without a venture capitalist or ‘hackaton’ organizers promising to solve various problems of humanly, no matter how loosely related to computer science : long-standing problems from biology to medicine, and physics and economics, and sociology and geopolitics!... are now on the precipice of answer –

no field of human inquiry is safe from what we called “new Kantian imperialism”, in reference to the philosopher who lamented the decline of his discipline formerly Queen of others...

In The Drifting Classroom, the answer to that question is a cautious one.

There, an obsolete, abandoned computer plays oracle, but cannot quench the thirst of the few remaining humans. It cannot provide them with food no more can it appease their inner sufferings. However it does make an inspiring, perhaps decisive hypothesis.

In Seraphim, an advanced civilization, very similar to ours, lives out its last days amid civil wards, abandonment of old values such as human rights and free speech, renewal of inquisition and witch trials, and the re-activation of religion’s supremacy over reason, resurgence of ideologies like communism, and endless strife that continue to have ethnicity as basis...

This exceptional work left unfinished by its legendary authors opens with the following, here abridged prologue :

“It began [in] the twenty-first century. An unknown disease appeared from deep inside”...

Meanwhile, in a just released document - the 2020 Goodwin et al report - an astonishing exchange between MIT academics can be found :

– Do you know Jeff Epstein? ... Linda [Stone] assures me that he’s awesome.

– I know him quite well. The person who is his closest friend is Marvin Minsky, who even visited him in jail. I would take Berlusconi’s money, so why not Jeff.

Is this what conversations inside of a dying empire look like? And, are these the kinds of murky and opaque waters that are the subject of monumental documentaries like Night and Fog?

“The signs were there”, Seraphim’s opening insists.