

Imagining AI: Representation of AI in Japanese Visual Novels over the Years

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Abstract

AI has long been part of the fabric of contemporary Japanese science fiction. Depictions of artificial intelligence in sci-fi has evolved alongside contemporary technology, from Tezuka's famous *Astro Boy* to increasingly digital representations of AI depicted today. As AI rapidly evolves beyond a hypothetical science-fiction concept and into our practical day to day realities, it is pertinent for us to examine how our sci-fi media has laid the groundwork in characterizing and explaining what AIs are, what they can do, and our fears and aspirations towards them. This paper looks back on the changing representation of AI as characters in Japanese games: how they are portrayed, their place in the narrative of these games and the ways humans interact with them. Whether positioned as malevolent antagonists or personable, intimate companions, the depiction of AIs in games reflects the many ways AI are thought of and depicted in popular media. Focusing on the game genre of Visual Novels, we narrow the focus of our analysis towards Japanese games that are narrative centric, with extended stories and a focus on personal relationships, to examine the imagined futures shared between AI and humanity. Utilizing a close reading approach, we investigate how AI as a concept and character developed from the early 2000s to 2019 through analysis of eight game titles. Through these games, certain archetypes of AI emerge, as well as patterns with regards to their role in the stories told. From tackling the concept of digital immortality to the issue of disembodied romance, the stories of AI in Visual Novels explore the imagined impact of AI on society, both on the societal level and its effects on intimate personal relations. Through this research, the paper aims to uncover the trends and patterns in the discourse surrounding AI within games.

Introduction

Artificial Intelligence, or AI for short, has long been part of the fabric of contemporary Japanese science fiction. Early depictions of artificial intelligence centered around self-determined physical robots such as Tezuka's famous *Astro Boy*, or Fujiko's *Doraemon*, but as our conception of AI shifts so have the ways AIs are shown. More recent depictions of AI explore their possible presence and influence in our increasingly digital lives.

Today, AI technology is at the cusp of being a core part of our day-to-day lives. With machine learning leading the way, more tasks can be automated and taken over by AI software. As AI rapidly evolves beyond a hypothetical science-fiction concept and into our practical day to day realities, it is pertinent for us to examine how our sci-fi media has laid the groundwork in characterizing and explaining what AIs are, what they can do, and our fears and aspirations towards them.

Analysis of AI depictions in Western Science Fiction (Cave, Dihal and Dillon 2020) has looked at historical pre-modern texts, popular early Science Fiction works from the 20th century as well as several more recent works. However, these analyses are often confined to traditional mediums of film, novels, and short stories, overlooking newer forms of interactive media. In undertaking this examination of AI depictions in Japanese games, we hope to accomplish two goals. The first is to uncover the discourse around AI not only in more traditional media, but in contemporary narrative mediums like games as well. The second, is to examine how this discourse developed outside of the Western science fiction ecosystem that has already been analyzed.

To accomplish this, the paper looks back on the changing representation of AIs as characters in Japanese games: how they are portrayed, their place in the narrative of these games and the ways humans interact with them. Whether positioned as malevolent antagonists or



personable, intimate companions, the depiction of AI in games reflects the many ways AIs are thought of and depicted across popular media. This paper focuses on the game genre of Visual Novels, due to their extensive use of prose and a higher focus on storytelling as compared to other game genres. Furthermore, the understudied nature of Visual Novels offers a different perspective on AIs in Japanese games from other more prominent Japanese games about AI such as *Metal Gear Solid 2* (2001) and *Nier Automata* (2017). The focus on personal relationships in Visual Novels also allows us to examine more closely the imagined future shared between AIs and humanity.

Methodology

The games analyzed in this paper were selected through a two-step process. The first step was to gather a list of Japanese Visual Novels that featured AI characters in their story. This list was gathered relying on the data on VNDB (Visual Novel Database) and returned a long list of 136 games¹. From this long list, a shortlist of games to be analyzed were selected based on the prominence the AI character has in the story, the titles' broad popularity, a range of Visual Novel subgenres, and their original release date in Japanese, taking care to represent games across different years and genres. A further selection criterion is the availability of these titles in a translated English release, whether officially or through fan translation efforts as well as whether the author has not played these games previously or not.

The final eight games that were analyzed for this paper are *Ever17* (2002), *I/O* (2006), *Baldr Sky* (2009), *Robotic;Notes* (2012), *DRAMAtical Murder* (2012), *Code: Realize ~Guardian of Rebirth~* (2014), *D.S. Dal Segno* (2016) and *AI Somnium Files* (2019). These games were closely analyzed through the lens of writing this paper.

Before moving onto the analysis, it is important to note that the selection criteria of titles to be analyzed has already introduced a specific skew towards certain types of AI stories. With the search criteria being AI "characters", stories that feature AI non-characters, such as AIs that are part of the setting of the story but are not present explicitly as characters, are left out from the analysis. The playthroughs being in translation also might

have effects on the representation of the AI characters themselves.

Furthermore, VNDB, the database that this paper draws from to select titles for analysis, relies on fan contributions to maintain an accurate list of games. While classical titles from the late 1990s and the 2000s are well detailed, many newer titles are not as accurately described, with many titles having a minimal number of tags². Finally, the selection criteria of looking at translated works also severely limited the number of more recent works to be considered for analysis. Translation work takes time and English releases of Japanese titles often lag several years behind. The latest work to be analyzed, *AI Somnium Files*, is an exception to this case. Led by well-known Visual Novel veteran Uchikoshi Kotaro, the project received a simultaneous English and Japanese release, owing to the popularity of Uchikoshi's previous work, the Zero Escape series, in the West.

With regards to the issue of translation, across multiple titles, references to classic Western science fiction concepts are made, most notably the Voight-Kampff test³. Oftentimes it is unclear if these references originated from the Japanese version or if they were inserted during translation, either as a shorthand for a familiar concept for a Western audience or as a substituted phrase to replace a technical term in Japanese. These pop-media references leave room for ambiguous interpretation and might characterize the AI in these games differently from one version to another.

Nevertheless, despite these limitations, several broad themes and concepts are strongly represented across these eight titles. Before examining these themes, we first describe three archetypes that AIs often embody in these titles.

Three AI Character Archetypes

Across the works analyzed, three distinct AI archetypes emerge. These are broad categories that roughly define the "rules" that the AI follows – their abilities, limitations, characterization, motivation, and the like. These archetypes are the Mirrored AI, the Human

¹ Search was conducted on a local version of the VNDB database downloaded on 2021 March 05, searching for games that featured Protagonist or Main characters with the Artificial Intelligence tag (i457).

² Tags refer to features of a narrative of character. They can be descriptive of appearance of narrative. Examples of tags might include "Brown Hair", "Married" for characters and "Multiple Endings", "Breaking the Fourth Wall" for features of the narrative.

³ A test within the universe of *Blade Runner* (Scott 1982) to determine if a person is a replicant (an artificial human) or not.

Analogue, and the “Other” Being. Each of these archetypes approach the concept of AI from a different perspective and naturally lead us towards examining different issues surrounding the nature of AI and our relation to them. Archetypes serve as broad ways for us to imagine the concept of AI, and to narrow them down into groups that share certain common features. These archetypes commonly exaggerate or focus on specific characteristics of AI that draw contrasts, or similarities, with humanity as a whole.

Table 1. AI Character Archetypes

Game	AI Characters	AI Archetype
<i>Ever17 (2002)</i>	Sora	Human Analogue
<i>I/O (2006)</i>	Shadows	Mirrored AI
	Marduk, Ashur	“Other” Being
<i>Baldr Sky (2009)</i>	Neunzhen, Mother, Eve	“Other” Being
	Project Ark Humans	Mirrored AI
	Kuu	Human Analogue
<i>Robotic;Notes (2012)</i>	Kimijima Kou, Geji-nee	Mirrored AI
<i>DRAMAtical Murder (2012)</i>	Clear, All-mates	Human Analogue
<i>Code: Realize (2014)</i>	Isaac Beckford	Mirrored AI
<i>D.S. Dal Segno (2016)</i>	Ame	Human Analogue
<i>AI Somnium Files (2019)</i>	Aibo	Human Analogue

The Mirrored AI

The “Mirrored AI” archetype are AIs that are built in the image of a specific human. They take some or all of their personality from the person that they are based on. There is often an active process of learning for the AI, taking data from a person’s actions to have the AI better mimic them.

For example, in *I/O*, Shadows are generated through the interaction a character has with the VR MMO Babylon, with the Shadow learning the behaviors of their user counterpart. When the character logs out, their Shadow would freely roam Babylon, acting as the AI believes the user would have. The next time the user logs back in, they

would “sync” their experiences with their Shadow, internalizing the memories formed by the Shadow during their automated roaming of the virtual world of Babylon. These Shadows are not perfect representations of the humans they are based on. They work off data collected from when the characters play the game, where they might act differently due to the nature of Babylon being an online game. Another is that the development of the AI hinges on the continued participation of the player on Babylon. If the player stops, the AI does not have new data points to further develop themselves.

In the story, these Shadows can also become Shadow Nulls, which happen if the user dies in the real world within the story, leaving behind a shadow that still roams Babylon even after the death of the original. This brings us to the other common representation of Mirrored AIs, as a way for humans to achieve life after death – to achieve digital immortality. Most commonly, this is achieved through an interface by which the consciousness or memories of a person can be digitized and used as the basis of their digital selves. Kimijima Kou in *Robotic;Notes* underwent this process as he was slowly dying, digitizing his consciousness even as his physical body started to fail. The theme of digital immortality will be discussed further into this paper.

Although Mirrored AI aims to mimic humanity, their role within AI fiction is to draw attention towards the artificial construction of AIs. As we will discuss further in this paper, the dramatic tension in the narratives of Mirrored AI often revolves around the ways by which their construction comes into conflict with human nature, and the presupposed incompatibility of computer hardware and software with the human consciousness.

The Human Analogue

On the other side of Mirrored AIs are the “Human Analogue”. They are AIs that are constructed to be human-like, in the general sense, without relying on the mimicry of a particular individual. Despite this, they are the archetype of AI that are likely to be the most aware of their own artificiality. They are often depicted as struggling with certain aspects of human emotion – most commonly affection and love. The awareness of their own construction also poses interesting questions on the innerworkings of AI, and narratively the struggle to come to terms with their constructed “humanity” is repeated across multiple games analyzed.

For example, Sora, the AI caretaker of the underwater facility LeMU in *Ever17* embodies this archetype. She presents herself to visitors through holographic projections and within the story does not explicitly identify herself as an AI until pressed. To best present herself as human-like, Sora is given a simple back story to craft her persona around, and actively learns from interactions with visitors to LeMU to improve her responses to conversations and queries. As part of this active learning, Sora asks the main character, Takeshi, about the concept of Love. Human Analogues are often depicted as simultaneously ignorant of the concept of love whilst being drawn towards the concept, hoping to understand and experience it themselves. This struggle with intimacy and romance is often repeated across many different games, with other AI characters similarly struggling with it, such as *Dal Segno's* Ame.

The Human Analogue's need to understand the dynamics of human relations within AI narratives drives their desire to seek intimacy with the humans within these stories. The common set up of a naïve AI who needs to be taught how to love borders on being an overused cliché but points towards a general fascination with the topic of love and AI. Drawing a contrast between the cold calculating computer and the intimate Human Analogue that runs on them sets up a natural conflict about the nature of love itself. As this conflict gets resolved over the course of the story, AI narratives focusing on Human Analogue companions explore how an imagined AI intimacy and romance might come to pass.

The “Other” being

Lastly are the AIs who are portrayed as being inhuman – that is to say, incomparable to a single individual. These are AIs that are often so far advanced that they are depicted as a tier of intelligence above ours, and consequently do not relate to humans in the interpersonal manner that the first two archetypes do. Oftentimes for narrative effect, these kinds of AIs are described almost akin to being forces of nature – unknowable, uncontrollable and possibly at risk of putting humans in danger.

The clearest representation of this archetype are the biocomputers of *Baldr Sky*. They are depicted as self-evolving, computational machines, whose computational processes are executed on biological platforms. These platforms evolve over time, and together with their

constant learning, makes them their own kind of sentience that is constantly adapting and improving. Biocomputers share a collective consciousness where each separate instance of one can be described as its own entity, even as they interact with hundreds or thousands of humans at once. In *Baldr Sky*, we are introduced to two such AIs – the first being Mother which runs the Seishuu Academy, teaching students and taking care of the facilities, and the second being Eve which runs much of the global infrastructure connected to the internet.

These types of AI are often portrayed with some form of mystical quality to them – indeed Mother, aside from being a teacher at the school, is also presented as being contactable at the Chapel, where students can go to ask for guidance from her, similar to asking for guidance from God. The all-knowing, all-powerful AI within these stories are dramatically more advanced than the AI of today, but they serve as a signal towards the ways AI technology might manifest itself into the future. The fear and anxiety surrounding the presence of such powerful AIs within these stories reflects similar fears and anxieties we have surrounding the ways by which the technology of the present can similarly affect our future.

While Western depictions of these sorts of AIs have often been in antagonistic roles, the games analyzed here rarely depict AI in this manner. At the end of the story, it is these AIs that come in to save the day. This “AI Optimism” runs counter to many Western AI stories. We will be examining this more closely within the games analyzed, to see where this optimism comes from and if they might hold into future AI narratives.

AI Themes

The three AI archetypes converge on several broader themes that are reflected through the interaction of humans and that archetypal AI in the story. Although each theme is not explicitly tied to one archetype of AI, it is through each one of those that the theme is expressed the most strongly and frequently. Across the eight titles examined, the issues of Digital immortality and AI Romance are part of the narratives told. Examining these narratives in aggregate reveals a third theme of AI optimism in terms of the way that AIs are often portrayed in these media. The following section examines the way these themes are reflected through the AI narratives examined and how these themes might inform our view towards AI today.

Digital Immortality – Data as eternal

Digital immortality is a theme that emerges across multiple titles. In these narratives, AI technology serves as a conduit for humans to live on past death. Digital immortality hinges upon two basic concepts – the resilience and replicability of digital data. The conversion of a human’s consciousness into bits and bytes then is often portrayed as a process by which that consciousness is given endurance beyond the limits of a physical human body. This process of transfer is often initiated when the person is facing imminent death and is often done as the final act of the biological body. Kimijima Kou in *Robotic;Notes* and Isaac Beckford in *Code:Realize* are both genius scientists who prepare a digitization process for their consciousness and undertake the process before their death, seeking to be reborn as Mirrored AI. On a larger scale, the Ark corporation in *Baldr Sky* prepares Project Ark – a desperate last resort process that would digitize the consciousness of every Ark employee in the event of a physical emergency. The digitization of consciousness into data and AI are in many ways framed as a second chance at “life”, an escape from death, even if what endures is merely a copy of the dying human consciousness.

However, this process is never without complications. The duplication or transfer of consciousness from fleeting electrochemical reactions in a physical brain to computational processes is still highly hypothetical and different games postulate different ways it might go wrong. For Kimijima Kou, the transfer process robbed him of his “humanity” and turned him into a single-minded AI driven to complete his conspiracy to destroy the world. The Ark Project, which initially seemed successful, turned out to fail in the long run. As AIs, the human consciousnesses start to lose their own sense of individuality and eventually merge into each other’s consciousnesses. These narratives frame the AI state of living as naturally “inhuman” – that the disembodied nature of AI cannot be reconciled with a human’s existence and consciousness.

Digital immortality is not limited to only human consciousnesses – other narratives portray the resilience of AIs and their enduring nature, due to their digital construction. Sora in *Ever17* is recreated from a terabyte disk which contained her memories after the destruction of her mainframe within LeMU. Aibo self-destructs her

robotic body in the climax of *AI: Somnium Files* to murder the main villain, but several months later is revealed to have survived the destruction of her hardware. Aibo had uploaded fragments of her data across the internet and careful reconstruction of these fragments recreated Aibo’s software. Kimijima Kou too gives a grave warning to the protagonists of *Robotic;Notes* when he is defeated at the games climax that his consciousness, having lived on the internet for so long, is still out there, slowly piecing itself back together to once again restart his plans to destroy the world. The infinite reproducibility of data and the way it can propagate and survive on the cloud forms the basis of the eternal nature of AI.

Although Digital immortality seems a distant possibility at present, even an incomplete version of this process could have serious consequences. In *Baldr Sky*, the AI cult Dominion used rudimentary technology to recreate former cultists who had committed ritual suicide as digital puppets. Using these puppets, Dominion seeks to emotionally manipulate these cultists’ relatives and friends. Although the recreations are not AI in the true sense of being an independent agent, they possess memories of the deceased as well as their visual appearance. This version of digital immortality is the one that we are closest to achieving in reality today. Voice Synthesis software can recreate voices of the dead through recordings, and deep learning software is already able to manipulate faces onto video recordings. Coupled with advances in natural language processing, digital puppets similar to those Dominion creates are not wholly unrealistic. Already ethical questions have been raised on the possible abuse such voice and facial synthesis software could enable (Tangcay 2021) and how we should approach the topic of death in a world where our digital traces may as well outlive us in the end.

Loving AI – Disembodied Romance

Can you fall in love with the Chinese room, and can the Chinese room fall in love with us as well? Visual Novels are a genre that frequently broaches the topic of romance and intimacy. Within the AI Narratives examined, it raises the question of what love would be like between AI and humans.

Before proceeding in the analysis, it is important to note that the framing of AI romance is gendered in a specific way. The majority of the AI narratives analyzed feature feminine AI characters and several of them depict

romance between a feminine AI and a male human. The issue of gendered depictions of AI is highly salient and worthy of further discussion, and future work in this space can be very fruitful especially in reflecting the discussions of gender within Japanese media and in technology more broadly as well. When discussing AI romance in this paper, it is through this female AI / male human perspective, due to the prevalence of this framing among Visual Novel games.⁴

The common starting point of these AI/Human love stories is the AI approaching the human on the topic of love. The human then takes said AI through a journey of understanding romantic love, usually through teaching and expounding on the importance of love as a concept for humans and by undertaking stereotypically romantic acts, such as going on dates and the like. The AI Sora in *Ever17* asks Takeshi, the main character, various questions about love. After struggling to explain such an expansive topic, Takeshi settles on summarizing the human relation to love as “Love is one of those mysterious things that people are programmed to do”, noting that the purpose of living was to love. In response, Sora wonders about her own reason for existing.

This existential question surrounding AI emerges throughout the many different types of AIs examined. However, it is the Human Analogues who are the most critically aware of it. As AIs whose goal is to emulate humanity yet who are aware of their own artificial construction, they openly question their own *raison d’être* throughout the stories. Romance and love are commonly framed as the missing concept that when understood, lets AIs to become “more human”. Sora in one of the endings of *Ever17* shares her final moments with the main character and comes to the realization of her own relation to love, and her own existence. “I was meant to be just like any other human... I was born to fall in love.” The romantic arcs of AIs are thus always wrapped up in this fashion, that in denying their artificiality and embracing romance, they can become “whole” and approach humanity.

But even as AIs embrace love and romance, their disembodied nature as lines of code running on computers

prevents them from embracing the physical intimacy that humans share with one another. This gap is highlighted throughout the various AI narratives. Sora, who could only display herself as a hologram, kisses Takeshi through a glass window, in a crude trick to simulate physical contact. Ame in *Dal Segno*, who is similarly a holographic projection of an AI, is taught by the main character to respond to him flicking her holographic forehead. Despite the impossibility of physical touch, the attempt at such is always shown to be an important part of said romance.

AI Saviors – Japanese AI Optimism

In Western science fiction about Artificial Intelligence, AIs are often cast as the villains or antagonists of the story. Famous examples would include HAL from *2001: A space odyssey* (Kubrick 1968), Skynet from the *Terminator* franchise (Cameron 1984) and the machines of *The Matrix* (Wachowski and Wachowski 1999). More generally, this trend holds on a broader scale, with tags on the Internet Movie Database (IMDB) showing that movies depicting AI characters would often include violence as part of the story (Recchia 2020). AIs are often put in positions of conflict with humanity as a whole and the stories devolve into an existential struggle against the machine.

The selected AI Narrative games from Japan analyzed for this paper take a radically different stance on the matter, however. In all the AI narratives analyzed, there is never a consistently AI-skeptical outcome. If one AI in the story would be the villain, another AI would intervene and aid the heroes against the villainous AI. Even in the most AI skeptical narrative analyzed, *Robotic;Notes*, although Kimijima Kou is portrayed as a terroristic enemy of humanity, he is given a narrative foil in Geji-nee, who befriends the cast of main characters and ultimately sacrifices herself to protect Airi, the human who Geji-nee is based off, in defiance of Kimijima’s will. In other cases, the AIs present in the story act as helpful companions or guardians, helping the human cast of the story overcome their current crisis.

Collectively, these games portray an open stance towards AI, welcoming them with an open mind towards their possible benefits towards humanity in the future. When the AI biocomputers of *Baldr Sky* intervene to help the main characters fight back against another antagonistic AI Neunzhenn, the main characters asked the AI why they are fighting so hard for mankind. Eve, the biocomputer AI,

⁴ The issue of gendered representation of AI is a deeply important question with regards to the future of AI and is unfortunately beyond the scope of this paper. See Devlin and Belton’s (2020) examination of the topic from the perspective of Western AI Narratives.

responds:

I wish to understand you all. And I want you all to understand me. After all, we perceive mankind as “friends.” Essentially those who walk the same path as us. In other words, we “like” mankind.

Baldr Sky depicts, and hopes for, a future wherein AI are companions of humanity through thick and thin, where we can trust in the AI, and where the AI will save us.

Why then does this depiction differ so greatly from the classic Western antagonistic depictions? A possible reason is the genre of games selected for analysis. Visual Novels as a genre have been niche since its emergence in the late 1980s in Japan and even through the peak of its popularity in the 1990s and early 2000s. (JETRO 2007, p.18) Even as sales of PC games were driven by popular Visual Novel titles, game sales on traditional game consoles still heavily outpaced the volume of Visual Novel sales. As such it is a genre selling to a clear target audience, a hardcore Otaku market that operates through the logic of database consumption (Azuma 2009). Many of the titles analyzed leverage the presence and position of AIs and AI technology within their story to draw readers into the story. The audience for these games gravitates towards moe-elements⁵ that they find appealing, and if those moe-elements happen to be AI characters, one could presume some level of support towards the existence of such AIs. Those who are AI-skeptical would choose to play other games that do not contain AI characters. Hence due to the self-selecting nature of database consumption, certain narratives are often repeated when referencing the same moe-elements. If game makers and writers who write with AI characters in mind know that their audience are open to the idea of AI, they are less likely to write strongly AI-skeptical narratives so as not to undermine the expectations of their audience.

It could also be said that this empathy towards AI companions follows on from the logics of chara-moe as described by Azuma. AI could be seen as chara-moe brought to life. An AI with their programmability and flexibility of origin is the ideal stand-in for any type of chara-moe an otaku is interested in. Sora in *Ever17* was

given the “setting” of being a 24-year-old woman with a caring and compassionate personality, to better serve her role as being a guide around the LeMU facility. Aibo in *AI: Somnium Files* had her personality programmed to be attractive to her creator Pewter. The promise of AI to embody any permutation of moe-elements one desires is at the root of AI’s appeal within the genre of Visual Novels. Given then the otaku-dominated readership of Visual Novels, it is not surprising that the genre would focus on such pro-AI stories throughout its history.

The future of AI Fiction

Stories about AI are, at their heart, stories about technology and humanity – our hopes and dreams of their possibilities as well as our fears and worries of their consequences, how our lives can change for the better or worse. In many of these games, the AI are secondary to the themes explored, even as they occupy center stage in the narrative arc of the story. Kimijima Kou, mad scientist turned psychopathic AI, is the main villain of *Robotic;Notes*, but the tension of the story lies not in his status as an Artificial Intelligence, but in the actions he has access to due to his control over the Internet, and the information channels on them. In the climax of the story, a terrorist attack is orchestrated by Kimijima on Tokyo, but the aftermath of the attack is greatly exaggerated through manipulation of the augmented reality app IRUO, which is hacked so that users from outside Tokyo viewing the city through the app would see a greatly devastated landscape, far outstripping the actual scale of the attack. The focus here is on how we are increasingly reliant on the Internet for information, and how networked systems like social media and apps are open to influence and manipulation by malicious parties.

What is the role of the AI then in such a story? They often serve as the anthropomorphized version of the dilemma or problem being discussed. AI here gives agency and action to hypotheticals. They put into motion problems that the authors of these stories see in society and in technological progress. Embodying the problem into an AI agent allows readers to better grasp the sometimes obscured and hidden ways technologies present problems to us. However, this presents us with a challenge in terms of tackling the concept of AI itself.

The conflicts in AI narratives are often centered around the ramifications of technology – and how their misuse could cause unforeseen problems for society.

⁵ Moe-elements refer to individual discrete features of a character. This can range from physical descriptors such as “Maid Outfit” to more conceptual ones such as “aloof” or “is an AI”

Despite that, the AI characters themselves are often shown to be blameless, or rather depicted as part of the solution when they intervene to aid the protagonists. Ame in *Dal Segno* causes troubles as she goes about the island the story takes place on, fulfilling human wishes in an attempt to improve the humans' happiness, as quantified by a happiness score built into her programming. Things go poorly when Ame's intervention includes acts such as placing a character into an endless dream where her deceased father was still alive, rewriting another character's memories to suit her wishes, as well as forcibly changing a person's personality. Throughout all these acts, Ame is explicitly disavowed of blame or resentment by the people involved in the incidents, even as the narratives attempt to criticize a future utopic society that chases utilitarian happiness through computer algorithmic control. In these AI narratives, AIs are both a shorthand way to depict certain technologies in their matured state, while also simultaneously carrying the connotations of chara-moe. Amidst all this, how do we engage with the concept of AI directly?

It is important to remember how rapid advances in AI technology have been in the last decade and how popular media has not yet had time to truly catch up with these advances. When AlphaGo took the world by storm in 2016 by defeating Lee Sedol 4-1 (BBC News 2016), many began to realize the potential that the new AI technology of neural networks and deep learning could lead to. AI, after the many false starts in the 80s and 90s, was finally becoming a reality. Today, machine learning has been used to develop a multitude of software that have rapidly, and quietly, been integrated into our day-to-day use of computers. From simple problems such as on-the-fly noise reduction in audio recordings (Baghdasaryan 2018), to larger, more ambitious functions such as in aiding research in science, medicine, and technology (Nature 2021), these AI-driven improvements have already arrived.

In comparison to these advancements, the AI depictions in these stories are still by and large far more advanced in terms of their general intelligence. However, what is important to note is that within these AI narratives, their advancement is not rooted within projections of current AI technology but rather are often deliberately ambiguous, serving as a placeholder for future technological progress in whatever way is convenient for the narrative.

This deeply speculative AI technology is not

necessarily detrimental to the story or message of these narratives. AI fiction works best when part of the narrative is grounded in present day technological concerns, such as the issue of social media in *Robotic;Notes* or climate change and environmental degradation in *Baldr Sky*. The AI's role in these stories serves as an extrapolation of our current technological trends and suggests what an unaltered path into the future might look like for humanity. In that sense, AI narratives that are less rooted in present day AI technology are still insightful in reflecting our views towards present day technological progress. The issue, however, is how future AI fiction might tackle the rising concerns towards AI technology itself.

Soon, as AI technologies become a larger part of our day-to-day experience, the ambiguous nature of AI technology would become harder to maintain within fiction. The same way that depictions of the Internet across these stories have evolved to match our popular understanding of the Internet, so too will depictions of AI evolve to match the reality of AI technology. *I/O*, first published in 2006, depicted the message board and forum dominated Internet culture of the late 1990s and early 2000s, but a scant 6 years later, *Robotic;Notes* in 2012 would portray the Internet in a more platform-centered form, with monolithic apps like Twipo and IRUO serving as social media and mega-app stand ins. Those 6 years saw the rapid rise of social media platforms such as Facebook and Twitter in the public imagination of the Internet. Given how fast AI technology is progressing today, evolution in the depiction of AI is almost inevitable, as terms and concepts such as machine learning, neural nets and the like shed their technical roots and enter daily conversations.

Such an evolution has already started to emerge within the analyzed AI narratives. There is a distinct split between centralized and decentralized AI depictions. Early AI stories such as *Ever17*, *I/O* and *Baldr Sky* depict AIs that are bound to large bulky hardware that are restricted physically, only being able to move freely through the mediation of the Internet. Later depictions such as Airi and Geji-nee in *Robotic;Notes*, the All-mates in *DRAMAtical Murder* and Aibo in *AI: Somnium Files* depict physically mobile AIs, that live on mobile devices and rely only partially on cloud computing for higher computational needs. The key event that happens between these two time periods is the release of Apple's personal digital assistant Siri in 2011. Future AI technology releases could, like the

release of Siri did, change our public conception of how AIs work. Much like how depictions of the Internet now rely on connotations and references to current Internet platforms and software, so too will the depictions of AI into the future.

Conclusion

It is important to reiterate that the findings of this paper are very much a product of the works selected for examination. The genre of Visual Novels, the information and contexts lost and gained through translation, and the context of these titles' production and release, all impact the findings in this paper. Yet despite all that, it is clear that much insight can be found by examining stories that hitherto have been underexamined. The archetypical ways that AIs are portrayed in fiction helps us understand the common ways more embodied AI technology might be perceived when AI technology approaches the complexity depicted in these AI fictions. The question of digital immortality as well as AI/Human romance mark the human interest towards AI technology and depict our internal hopes for the development of AI. Finally, specific to this set of Japanese AI narratives, this paper has discussed how the optimism that appears beneath them might originate from the chosen genre examined. This paper offers the first step in uncovering the complex relationship we have with the concept of Artificial Intelligence.

Building on the findings based on the Japanese AI narratives in Visual Novels examined in this paper, further research should be done to contextualize these findings within a broader canon of Japanese AI narratives and sci-fi media, whether through their relation to anime, manga, light novels or other non-visual novel games.

Examining games such as *Nier Automata* (2017) and *Metal Gear Solid 2* (2001) which deal with AI as a central narrative topic but from a perspective with different genre conventions would help distinguish more clearly themes that emerge from the Visual Novel genre from broader themes within Japanese AI narratives.

Additionally, studying AI depictions in Visual Novels within the broader context of the unnatural recreation of the natural can serve to surface the reasons behind the differing framing within sci-fi narratives between previous studies examining negative Japanese depictions of cloning and bioengineering (Hutchinson, 2019) and the positive framing of creating human-like AI in Visual Novel games.

The genre of AI narratives will only be more heavily scrutinized as these technologies are realized and integrated into our daily routines. A broader view of the matter can help further inform us on the many different perspectives we might have towards the AI future we are rapidly approaching.

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