



From Code to Character: Cultivating Artificial Life through Human Values in Chiang's *The Lifecycle of Software Objects*

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Abstract

This article examines the role of human values in cultivating a meaningful artificial life as reflected in Ted Chiang's *The Lifecycle of Software Objects*. It investigates how the digients' life transfers from an autonomous code to an ethical character nurtured by human-centered values—care, affection, and responsibility. The existing study on this text highlights the posthuman identity and agency of artificial beings, yet pays little attention to how human values foster AI entities' ethical life. Based on this research gap, this article argues that the digients in the text can survive and develop only through constant human nurturing, emotional bonding, and moral responsibility. It employs digital humanism, AI ethics, and care ethics as a combined framework and a qualitative textual analysis method to study how the digients' moral growth relies on human commitment rather than technological coding. It finds that AI systems are not autonomous and independent; they survive and develop only through human emotional and ethical care. Human characters, such as Ana, are responsible and accountable for the digients' moral

capacities beyond the mere code systems. The article highlights the significance of human values even within AI environments. It will contribute to digital humanism, AI ethics, and broader discussions on human-technology relationships by foregrounding the centrality of human values in Human-AI relationships.

Keywords: Accountability, care, digients, ethical life, human values, responsibility

Introduction

Artificial intelligence (AI), as a rapidly growing phenomenon, has raised critical questions about the advancing digital technology and the role of humans. Contemporary AI literature portrays artificial intelligence as emotionally complex, ethically capable, and interactive entities rather than as a mere code or computational system. Post-2000 AI fiction represents human-AI relationships, centralizing the role of humans even within digital environments. In this context, Ted Chiang's *The Lifecycle of Software Objects* depicts how the digients (AI beings) are nurtured through fundamental human values—care, affection, and responsibility. Set within the highly technological virtual

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environment, the narrative illustrates that the learning, growth, and ethical continuity of the digients depend on sustained human attention, patience, dedication, and commitment. Human characters act as the digital pets' guardians, teaching them language, habits, behaviors, and relational capacities. The digital beings' ethical living relies not solely on computational systems but on human choice and ethical commitment. In the novella, Ana Alvarado, the protagonist, spends years training and nurturing her digient, Jax, facilitating his moral growth and ethical being. Even after the designer company Blue Gamma collapses financially, the Data Earth platform technically fails to support, and other human handlers lose interest in keeping old digients, Ana chooses to support Jax's learning and substantial living instead of discarding him. At the end of the novella, she refuses to sell Jax to Binary Desire, demonstrating her persisting moral commitment to the continuity of artificial life. By presenting the lifelong relationship between Ana and Jax, the novella redefines artificial life as a purposeful existence sustained by human values rather than code alone.

The protagonist's nurturing and enduring commitment towards the AI entities, digients, exemplify how human values can be extended into digital environments. The article addresses the question: How does the novella depict human values as essential to fostering an ethical development of artificial life? It aims to examine the roles of human values of care, emotional attachment, and moral responsibility in cultivating the moral character in the digients. The qualitative research design and textual analysis method guided by a combined framework of digital humanism, AI ethics, and care help interpret key narrative events, narrative devices, characterization, and textual moments that signal the transformation of digients from software code to morally nurtured individuals. The findings highlight that

technology alone is not sufficient to build moral character in digital beings; it requires full human engagement and responsibility. The article will contribute to literary studies, AI studies, and AI ethics; however, it is limited to a close literary interpretation of a single text. Its findings remain specific to the narrative aspect of the text, not to the broader literary contexts and real-world AI environments.

Review of Literature

The Lifecycle of Software Object has received critical responses from diverse perspectives. The scholars have analyzed human-technology relationships, posthuman subjectivity, and AI agency in the novella. Posthuman studies particularly celebrate the breakdown of boundaries between humans and nonhuman agents, as represented by the digients, highlighting the posthuman, relational subjectivity of the digital organisms developed on the Data Earth platform. In this light, Meeyoung Kang's posthumanist reading highlights how Chiang's work complicates and questions organic/inorganic or human/nonhuman binaries as "both humans and nonhumans interact and affect each other, overcoming their vulnerability to the biopolitical forces with the potential for being ambiguous and enhancing their agency by modifying themselves" (200). Kang emphasizes the co-evolution between human characters and digients for mutual growth. Similarly, Susan Balée examines how "software engineers have created 'digients,' virtual pets that exist online and develop personalities and skills as their owners play with them" (328). She adds, "Owners can interact with their pets as avatars in their online world, and the digients can come into the real world via robots that they manipulate electronically" (329). Balée also observes the relational agency of digital beings that interact with human beings and can be embodied in robots, providing physical presence. While both scholars stress the software beings'

posthuman identity, their findings overlook how the digients' moral living relies on human choices and decisions, reflecting their responsibility.

Some other scholars study human-digient entanglements as instances of companionship, friendship, and social interactions, focusing on the lived reality of digital organisms as reflected in the novella. In this connection, Sunyong Ahn reads how Chiang's work "uses one of literature's distinctive capacities—empathic imagination—to great advantage to narrate how everyday life of digital entities, referred to as digients, is lived concretely" (74). Ahn analyzes the digients' life not as an abstract theoretical principle but as a grounded existence through which they can concretely experience things and perform emotional actions. She further states that "the story is about the everyday interactions that take place between human owners and their digients and, not surprisingly, these interactions become intense and develop into emotionally and socially entangled relationships of love, ranging from companionship to friendship to parent-child varieties" (74). Ahn interprets human-AI relationships as not merely everyday engagements but as socially and emotionally embedded kinships. Using a superintelligence perspective, Dario Grgurević reads that the work demystifies AI by depicting the digients as the products of gradual training, trial, and social interaction: "*The Lifecycle of Software Objects* demystifies artificial intelligence, showing real world elements contributing to the creation of digients. They are the results of plausible research, trial and error, as well as interaction with humans and non-humans alike" (2). Grgurević investigates how the novella illustrates that digital entities are not magical creations, but products of research, testing, and continuous interactions with human companions. While the studies interpret the digients as the creation of social interaction, it overlooks the roles of

specific human values in building those engagements.

The scholarship on Chiang's narrative focuses mainly on posthuman identity and human-AI interaction. While Kang and Balée highlight posthuman subjectivity and agency of the digients, Ahn and Grgurević investigate the human-AI interactions. However, the scholars pay little attention to how specific human values—nurturing, relational bonding, and accountability—form the moral existence of the digients. Addressing this gap, this article analyzes how human values frame the digients' ethical living, and how the protagonist challenges the commercialization of AI entities, reinforcing their moral significance in human-AI relationships.

Theoretical Concepts

This article draws on the theoretical insights of digital humanism, AI ethics, and care ethics to examine the extension of human values into AI existence in *The Lifecycle of Software Objects*. Digital humanism places human values, rights, and interests at the center of digital technologies, arguing that technological advancements should be human-centered, serving the interests of human individuals and institutions. Nida-Rümelin and Klaus Staudacher define digital humanism as "an ethics for the digital age that interprets and shapes the process of digital transformation in accordance with the core concepts of humanist philosophy and practice" (17). Digital humanism emphasizes the increasing development of digital technologies in the service of humanity, being guided by humanist philosophy. Digital and AI systems may play ethical and emotional roles, yet responsibility is bound to humans, as the designers of those systems. Leading digital humanist scholar Luciano Floridi contends that although "an artificial agent may qualify as a moral agent, it does not relieve the creator of that agent of responsibility" (135). He stresses that artificial entities may

perform moral actions, but humans hold the ultimate accountability for those actions. This perspective is used to analyze how the protagonist holds the responsibility for the meaningful growth and sustenance of AI characters in the novella.

Likewise, AI ethics emphasizes human accountability in the design and operation of artificial intelligence. Mark Coeckelbergh argues that human-technology may be inherently moral and relational, yet humans are responsible and accountable for these relations. AI systems are not autonomous moral agents; rather, they are embedded in human practices, shaped by social values and human decisions. He asserts that humans may “delegate agency to the machine, but retain the responsibility” (*AI Ethics* ch. 8). Since humans make AI systems, they should perform moral decision-making. As technological practices are embedded in human practices, the ultimate responsibility remains with the human designers. As he adds, “When humans are doing things and making decisions, . . . [they] are responsible for those consequences” (ch. 8). Humans bear accountability for AI technologies and their effects in the world. Coeckelbergh adds, “If AI takes the form of an artificial agent . . . , then that artificial agent may cause a particular outcome, but we do not hold that agent morally responsible; instead, we look for a human to bear the responsibility for what the agent does, has done, or might do” (“Narrative Responsibility and Artificial Intelligence”). So, AI ethics concerns how humans remain responsible for interpreting, evaluating, and guiding the technology to ensure it aligns with ethical, social, and personal values. Fritz et al. also agree with Coeckelbergh, emphasizing the “accountability and responsibility of humans regarding AI systems” (7). In the context of Chiang’s narrative, human characters like Ana bear the sole responsibility of teaching, nurturing, and ensuring the AI characters’ moral sustenance.

Care ethics is a human-centered moral

theory emphasizing empathy, emotional bond, and responsiveness to needs within relationships between individuals, rather than reliance on abstract, universal rules. It prioritizes contextual understanding, nurturing connections, and responsibility for vulnerable individuals. In this context, Nel Noddings states, “Care ethics is primarily interested in the establishment, maintenance, and enhancement of caring relations. . . . Within the caring relation, in any given encounter, one party acts as carer and the other as cared-for” (“Care Ethics” 18). Care ethics primarily focuses on the caring relations. In a similar line, Virginia Held maintains that “the central focus of the ethics of care is on the compelling moral salience of attending to and meeting the needs of the particular others for whom we take responsibility” (10). She argues that care ethics emphasizes the moral importance of responding to and meeting the needs of those for whom one takes responsibility.

Supported by perspectives from AI ethics and care ethics in the broader theoretical framework of digital humanism, this article analyzes how the novella foregrounds care as a foundational human value from which empathy, emotional attachment, and commitment emerge and shape AI environments in a human-centered ethical framework. While digital humanism situates AI environments within a broader human-centered and relational context, AI ethics and care ethics enable a focused examination of the specific values that shape human engagement with artificial beings. This combined framework helps interpret that the digients are neither fully autonomous nor code-operated systems, but are developed and legitimized through constant human engagements. The following analysis centers on how care nourishes the digients’ learning and cognitive development, fostering their purposeful living as human companions.

Nurturing the Digients with Care

The Lifecycle of Software Objects portrays how care, a fundamental human value, promotes the digients' educational, habitual, behavioral, moral, and social growth. By building close personal relationships with the AI beings, the human trainers teach them to live, learn, and grow as persons, not as code. Nurturing the digients with care encourages them to develop language, behavior, and social awareness in friendly ways. Noddings defines care as a basic human value: "As human beings we want to care and to be cared for. . . . to care may mean to be charged with the protection, welfare, or maintenance of something or someone" (*Caring* 8-9). Care underlies an ethical commitment to sustaining and protecting others within relationships. Tronto argues that "caring seems to involve taking the concerns and needs of the other as the basis for action" (105). She focuses on the action-oriented dimension of care. Likewise, Held adds, "The same characteristics of attentiveness, responsiveness to needs, and understanding situations from the points of view of others should characterize caring" (Held 18). Held highlights an empathetic mode of care and responsiveness. From a care ethics perspective, the novella depicts how human caregiving practices mark a sense of "digital parenthood" through the intensive, time-consuming, and emotionally engaged process. It represents the virtual world of Data Earth acting "as a global village for raising the digients, a social fabric into which a new category of pet is woven" (Chiang 17). The digients are artificial beings or digital pets designed to learn language and interact with humans. The narrative repeatedly reflects the moments of digients' learning and growth through sustained human attention and responsiveness.

Human caretakers spend time teaching the digients language, habits, games, and social understanding, guiding them into

new environments. Both Derek, a former animator who designs the bodies of the digients and raises them, and Ana, a caretaker employee at Blue Gamma, work as digient trainers and show their caring capacities. While Derek's training is driven more by technical responsibility, Ana's care is more emotional and empathetic. Specifically, Ana, the protagonist, assumes full responsibility to "train these 'digients' to explore their potential for learning", understanding their needs, temperance, and emotions (1144). Ana emotionally invests all her time and energy in working for the digients' learning and development. As a caretaker employee at Blue Gamma, she could just teach them language and behaviors without ethical and emotional commitment. But she guides them with patience, motivation, dedication, and selfless care. Similarly, the digital entities, "designed with the capacity to learn and acquire language," appear to "interact . . . with [humans] via a virtual world" (DeKorver 1144). At times, she assesses their learning progress through practice exercises, encouraging their progress. Although she works with all the digients, she is attached more to one named Jax. With the motive of encouragement and emotional support in learning, she evaluates the progress of her adorable Jax as illustrated in the following exchange:

"See the blocks, Jax? What shape is the blue one?"

"Tringle," says Jax.

"Good. What shape is the red one?"

"Squir."

"Good. What shape is the Green one?"

"Circle."

"Good job, Jax." Ana gives him a food pellet, which he devours with enthusiasm. (Chiang 12)

In this conversation, Ana tests whether Jax has learned to identify shapes and colors. As he correctly answers her questions, she compliments the digient for learning so perfectly. She also assesses how much he has learned to eat his food pellet. She facilitates

a friendly environment for the digient learning. Her tone is highly encouraging as she expresses her satisfaction with how Jax learns.

Ana demonstrates her parenthood and encouragement in every moment of learning achieved by the digients. In another scene, she praises the way her digient learns to roll down the virtual hill, as highlighted in the following dialogue between Jax and Ana:

“Ana watch? Asks Jax. “Jax spinning lying din!”

“Yes, I saw you! You were rolling down the hill!”

“Rilling din the hill!”

“You did great.” She rubs him on the back of his head again.

Jax runs back and resumes rolling.
(14)

This interaction between Ana and Jax reveals how Ana praises the digient, who is also learning to roll down for the first time after some practice. She encourages Jax to enter the robot body to experience the physical world. Following her guidance, Jax steps through the portal, tracing his movement from digital platform to physical world. She articulates her joy at Jax’s learning and transformation: “Wow wow wow. Sound different. Wow wow. . . . It’s okay, Jax” (Chiang 24). She considers evaluating Jax’s physical abilities “like conducting a sobriety test for a bunch of toddlers” (23). She presents herself more like a caregiver to learning children in human societies. Ana’s tone is affectionate, reassuring, and encouraging, reflecting her joy at Jax’s transformation and the success of her selfless dedication.

Ana does not passively interact with Jax but actively guides him with care, responds to his fears and anxieties, and reassures him of the continuity of life. Her role for Jax is more individualized, extending beyond training to emotional engagement. Her “care-giving involves the direct meeting of needs for care,” because she comforts and safeguards him from his vulnerable

condition (Tronto 107). The following conversation illustrates Ana’s individualized care for Jax when she assures him about his long-term life:

“I not want to be suspended. Not want miss month”.

Ana does her best to sound reassuring. “You don’t have to worry about that, Jax.”

“You not suspend me, right?”

“Right.”

To her relief, Jax seems satisfied by this. . . . (Chiang 37).

Ana acknowledges Jax’s anxiety about being suspended; she addresses his worry in a personal, caring, and comforting manner. While the digient’s tone is sad and desperate, her tone is comforting and reassuring. This emotional attentiveness reflects that care for the other is not just functional, but relational and engaging.

Human care for the digients appears to be a true source of their emotional and cognitive growth in the Data Earth platform. Zoe Armstrong, a handler, posts in the users’ forum about how her digient learns empathy and care: “You won’t believe what my Natasha did today! We were at the playground, and another digient hurt himself when he fell and was crying. Natasha gave him a hug to make him feel better” (19). Natasha, a digient, responds empathetically to her friend’s pain. It illustrates that the human handlers teach them human values, such as care and empathy. Likewise, the digients also learn to realize mistakes. As Jax damages a piece of sculpture that Kyle, Ana’s boyfriend, loves, he begs a pardon: “I very very sorry” (88). Thus, the human handlers regularly log in and nurture the digients, shaping their habits and behavior and reflecting their emotional development.

Chiang also depicts moments in which reduced care and attention lead to limited growth of the AI beings in the narrative. When humans offer less care, the digients’ development is slower. It highlights that care—rather than being optional—proves

essential for digital beings' continued existence. As the narrative explains, "Even more distressing is that most of the Neuroblast digients are gone as well, including many of Jax's friends" (Chiang 89). Immensely worried about the possibility of her digient's continuity, Ana makes many attempts to raise funds and fix technical issues. As the text narrates, "Ana also tries to shield Jax from the problems surrounding the Neuroblast port, but he's aware of it nonetheless" (99). Ana assures Jax that he will not be suspended anymore, suggesting that the decline in sustained human care results in the loss of emotional support needed for the digients' progress.

Thus, the novella depicts the digients' leaning depends not just on code but on sustained human care: a fundamental human value that treats them not merely as programmed software objects but as unique individuals. The digients experience their overall growth under human guidance, encouragement, and long-term attentiveness. With human care, the digients like Jax learn many skills, including speaking, knowing shapes and colors, developing behaviors, forming eating and other habits, working in groups, playing games, interacting with themselves and humans, articulating desires, sharing experiences, expressing empathy, and developing emotional relationships. Continued human nurturing develops into an enduring empathetic and emotional bond between human caretakers and digients.

Shaping the Digients' Character through Empathetic and Emotional Bonds

Humans' empathetic and affective bonds with the digients serve as fundamental human values that shape digital beings' ethical character. Humans' sustained care not only supports the digients' learning but also gradually fosters a relational attachment with the AI beings. The caring engagement encourages human handlers to understand and respond sensitively to the needs and experiences of the AI beings as

ethical characters in the novella. Noddings highlights how care cultivates empathy: "Caring involves, for the one-caring, a 'feeling with' the other. We might want to call this relationship 'empathy'" (*Caring* 30). Feelings of empathy are foundational to ethical relationships. Empathy drives one to understand another's conditions as if it were one's own. Chiang's human characters exhibit their empathy towards the digients. Ana and Derek understand the needs and expectations of the digital beings and act accordingly. Along with teaching behaviors, language, and everyday activities, Derek and Ana encourage the digients that their mistakes are not a sign of inefficacy but the processes of actual learning. In many cases, empathy functions as an "affective response that is more appropriate for another's situation than one's own" (Hoffman 4). Cultivating a sense of empathy, human characters understand the digients' learning process and levels of frustration; they never impose any rigid instructions and expectations on them. Their acknowledgment of the digients' conditions and problems helps the digital beings gradually handle difficult situations and develop ethical relationships with human beings. The empathetic consideration for the vulnerable remains central to the ethical relationship between human and AI characters in the novella.

Both Ana and Derek seek to understand the needs, expectations, difficulties, vulnerability, and frustrations of the digients. However, Derek tends to solve their problems from a practical and technical perspective rather than an emotional one. While the digients ask to be rolled back to cope with the unpleasant experience they have undergone, Derek denies their request, knowing how they feel: "Of course I do, but I can't just roll you back every time you have a fight. Just wait a while and you won't be so angry" (Chiang 60). He understands their problem technically rather than sympathetically.

He warns that frequent rollback would not help them, advising them to wait until the anger goes away. Ana, on the other hand, understands their frustration, acknowledges the digients' condition of fear and anxiety, and emotionally helps them cope with the situation. She demonstrates her full concern for the digients' welfare. She develops an empathetic feeling for the digients because ". . . if the empathy is aroused, the welfare of others will be considered" (Hoffman 14). She guides him through social contexts he is not familiar with. She not only encourages Jax's performance in front of other gamers, but also explains their reactions to his actions in support. As the text captures, "The other gamers laugh all through his performance. Jax finishes with a curtsy, and they applaud. 'That's brilliant,' says the seraph. Ana says to Jax, 'That means he likes it. Say thanks.' 'Thanks.'" (Chiang 68). This scene presents Ana's sensitivity to Jax's growth and learning. She understands that he finds it difficult to comprehend the meaning of applause. She encourages Jax to learn language and behaviors, acknowledging his point of view. Thus, the text portrays moments of empathy that preserve the continuity of their development, not merely as data, but as engaged individuals.

In the narrative, human characters' emotional connection with the digients demonstrates how human engagement shifts from teaching to an affective bond. The digients demonstrate their emotional and relational capacities to immerse in a companionate relationship with humans. In this connection, Jussi Parikka states that "Chiang's novel asks us to consider the ways in which software, if not always embodying, as the very least mediates relations, emotions, and life" (103). Continued human care pushes digital entities to engage in relational networks. The novella illustrates that "caring is not so much about the activities of care, but about the emotional investment that has been made in order to care" (Tronto 118).

Since Ana's care for Jax leads to emotional attachment between them, Jax functions not merely as a code system but as a genuine companion with emotional capacity. Ana raises him in her own apartment along with her boyfriend, Kyle, because her bond with the digient is deeper and more personal than her relationship with the other digients. Over many years as an employee at Blue Gamma, she has spent the most time training, teaching, and interacting with Jax, creating a unique relationship based on care, trust, and empathy. She expresses her deep bonding with the digient: "Maybe Jax can make money, but Jax isn't for making money. He's not like Draytas, or the weedbots. Whatever puzzles he might solve or work he might do, those aren't the reason, I'm raising him" (Chiang 70-71). She stresses her affective intimacy with the digient by refusing his utilitarian and functional value. She gradually treats him not just as a software code but as a person with distinct qualities. The narrative illustrates, "There are still an endless series of obstacles ahead, but at least, she and Jax will have a chance to tackle them. Briefly, Ana indulges herself, fantasizing about what might happen if they succeed" (149). Despite the possible constraints and challenges, Ana imagines a perfect bond with Jax. Following Ana, Derek also develops an emotional relationship with Marco and Polo. In one scene, Derek "restarts the video of visitors' meeting with the digients and watches it at regular speed" (109). If he was not emotionally invested in the digients, he would not choose to replay and carefully observe their activities at the regular speed.

Chiang highlights how AI environments are meaningless without human presence and companionship. As Jax's human friends gradually reduce their visits to Data Earth, due to the closure of Blue Gamma, he cannot join all social gatherings, both on the digital platform and in real space. The narrative reflects his trapped condition: "Jax

is losing most of his social life in the virtual world, and he can't find one in the real one: his robot body is unpiloted free-roaming vehicle, so he's restricted from public spaces unless Ana or Kyle is there to accompany him. Confined to their apartment, he becomes bored and restless" (Chiang 89). It highlights the significance of human company that fosters emotional growth and relational capacity in the digients. As Derek articulates, ". . . they made people more likely to spend time with them, and that was good for the digients" (122). In such situations, the digients "can learn to create the appearance of emotions and appearance of fully moral" (Coeckelbergh, "Moral Appearances" 235). As a professional trainer, Ana could train digients as a "job without having to be in love", yet "she knows the difference that affection can make in the training process, how it enables patience when patience is needed most" (Chiang 141). Her companionship with Jax promotes his sense of ethical relationality—a capacity to develop relationships and join social gatherings with both humans and other digients. Thus, with human company, the digients can learn faster and experience their individuality and ethical being.

The relational bonds stage a platform for the digients to develop empathy, responsibility, social awareness, and meaningful relationships beyond their programmed capabilities. Ana's concern is not merely the existence of the digients, but the development of their emotional capacities, individuality, and selfhood. Her deep affection functions as a foundation for their long-term continuity. Human empathy for the digients and subsequent emotional attachment foster their relational growth and inner experiences. The text shows that humans do not raise the digients as mere technological devices, used for financial gain or technological assistance, but as growing individuals whose value lies in the prolonged development and lived experiences as relational beings. This

affective relationship between humans and digients—grounded in human caring—evokes the urgency of human responsibility for sustaining artificial life in meaningful ways.

Ana's Moral Responsibility amid the Digients' Obsolescence

Despite Blue Gamma's closure, Ana and Derek's decision to persist in caring for the digients evokes a deeper sense of moral responsibility. After the collapse of Blue Gamma and its public version of Data Earth, some owners create private versions of Data Earth on their own servers to keep their digients alive. However, as "having the digients confined to a private Data Earth has definitely been hard" and "the user group's attempts at fund-raising don't meet with much success", the handlers find it challenging to sustain the artificial life (Chiang 93, 99). Moreover, many interested donors are diverted to the preservation of endangered natural animals. When digients need sustained care and human handling for their growth, they undergo a massive obsolescence crisis. As Brittlend DeKorver observes, "Like raising a real living being, digients needed sustained, long-term interaction to avoid 'going feral.' Once the novelty wore off and the onerous responsibility became evident, society largely abandoned software" (1144). However, emotional engagements with the digients impel Derek and Ana to continue caring as "the greater responsibility belongs to the one-caring" (Noddings, *Caring* 76). Since Derek and Ana have spent every day closely with the digients for more than five years, "the moral force of the responsibility to respond to the needs of the dependent" does not allow to abandon them (Held 10). So, Derek and Ana seek to manage funds and find help from experienced developers, "with experience in genomic engines", while many "developers are drawn to new, exciting projects" (92). They express a moral obligation to keep their digital

pets alive, despite the financial crisis and technical complications. At one point, when Jax draws an analogy between his condition and the frozen mouse uploaded on a video, Ana assures, "Nothing like that will happen to you", showing her full commitment (100). As everyone is looking for a corporate investor and Jax expresses his wish to get a loan, Ana replies, "Let me worry about that, Jax" (101). She promises to raise him despite financial and technical crises. When some handlers suggest suspending the digital beings for a short time, Ana opposes: "If you think suspending Zaff will increase your motivation, go ahead. Keeping Jax awake is what keeps me motivated" (102). Ana clarifies that it is her moral responsibility to raise her digient, Jax. Although many owners discard their digients, Derek and Ana commit to keeping them, illustrating how artificial life requires human care.

However, Binary Desire's offer sparks an ethical contrast between Ana and Derek over the digients' future, portraying Ana as ethically responsible, but Derek as technically accountable. Binary Desire, a company that creates and markets virtual sexual partners, proposes to pay for the migration of the Neuroblast digients to a new platform in exchange for the right to use and modify some digients as commercial virtual sex companions. Derek welcomes the proposal, arguing that it could at least guarantee the survival of the digients; however, Ana rightly rejects it because she believes the company will treat the digients as commodified objects. She considers the deal as "the coercion" and "purely pro-forma, a way to make some money by listening to a sales pitch" because the company does not offer the digients any choice (Chiang 115, 118). It will alter their desires and reward systems, programming them to accept their commercial sexual roles. She objects to the ways digients are sold as commercial products. Derek insists on selling: "I think what we need to ask

ourselves is, if we make the digients sexual, would that encourage other people to love them, in a way that's good for the digients" (122). He claims that Binary Desire's offer will create demand for digital partners, ensuring their long-term continuity. He argues that the digients will survive in the real space: "It's good for everyone. . . . The digients get access to real space" (148). He claims that this project will address their worry about the uncertain future of the AI beings.

Ana, in contrast with Derek, emphasizes the role of human commitment and responsibility for the digients' ethical continuity. As she contends, "I don't think we should let someone else treat them with less respect" (123). She emphasizes the digients' individual choice, freedom, and selfhood that demand respect as unique individuals, not as sex objects. While Derek wants to stop investing privately in their digients and ultimately accepts Marco's decision to join Binary Desire, Ana reacts with shock and moral unease, seeing the act as a betrayal of care and responsibility towards the digients. Her question to Derek—"Why did you do it? . . . Was it for the money?"—underlies her ethical stance against commercialization of the digients (147). She challenges his decision to turn the digients into profit-making digital products. Derek's decision to sell Marco worries her: "Thinking about the ways Marco might be used - without ever realizing that he's being used - makes her heart break" (148). Symbolically, Ana and Derek represent two dimensions of human-AI relationships: technical and ethical. Derek seeks more practical and technical means to address digient obsolescence, focusing on the existence of AI entities rather than fostering ethical living. But Ana is fully committed to raising the digient ethically without selling to Binary Desire as commodified sex objects. Thus, the narrative illustrates a critical tension between Derek's emphasis on technical adjustment and Ana's unwavering moral

responsibility for the purposeful digital life.

Ana's rejection of Binary Desire's offer intensifies her commitment to continued care and moral responsibility in the face of the digient obsolescence. Her consistent attention, grounded in an enduring bond, ultimately evokes a life-long human commitment to maintaining an ethical AI future beyond the code. She develops a sense of responsibility for keeping the digients not only alive but also ethical agents in human-AI relationships. She opposes a simple existence for her digient, demanding "to have a chance at a fuller life" (136). She is cautious about the changes that could disrupt Jax's existence and growth. In her care for Jax, she demonstrates that "by nature, care is concerned with conditions of vulnerability and inequality" (Tronto 134). Her attachment to the vulnerable and dependent Jax is exceptional. The narrative explains how she is more concerned with Jax's welfare than her own personal matters: "Ana just wishes Kyle understood; she has always made it clear that Jax's welfare comes first. . . . She doesn't want their relationship to end because of this job, but she has been with Jax longer than she's been with any boyfriend; if it comes down to it, then she knows who she'll choose" (Chiang 141). Her responsibility involves a sacrifice, expressing readiness to lose Kyle's love for the sake of Jax's learning and growth. She claims that Jax is not her toy object, but an ethical companion with a unique personality.

Toward the end of the novel, Ana's response to the news of the Neuroblast port being developed illustrates her deep ethical commitment to Jax, as she hopes for his social, emotional, professional, and moral growth beyond mere technical living. Ana is optimistic about the survival of the digients as she learns that the Neuroblast port is finally underway. Instead, she imagines a future time in which her favorite Jax "will enter Real Space, see his friends again, and rejoin the rest of the social universe" after the

success of the Neuroblast mission (Chiang 149). Despite many upcoming obstacles, she is hopeful that "at least she and Jax will have a chance to tackle them" (149). She imagines Jax as a mature and legally recognized person, employed and earning a living, participating in the digient culture, and "loving and being loved" in ethical relationships (150). Her commitment goes beyond preserving Jax's technical existence to cultivating his capacity for ethical living, social participation, and meaningful relationships. Her focus is on the digient's moral growth, experience, and identity, not on her own benefit. Although she is not certain of whether Jax will achieve these things, she reaffirms her full commitment to giving Jax the opportunity. The narrative captures her promise: "If he's ever going to get the chance to try them, she has to get on with the job in front of her now: teaching, as best she can, the business of living" (150). The final scene, where she calls Jax from playtime to homework, reinforces her moral responsibility as a devoted caregiver who sees his moral and social development. Highlighting that Jax's growth depends on Ana's continued, selfless, and ethic-driven care, the novella endorses that human responsibility in raising the digients functions as an ethical act, beyond utilitarian and economic value.

Hence, Ana emphasizes their ethical growth and meaningful living, challenging the forceful commodification of the digients. Instead of selling the digients sex objects for their technical continuity, she chooses more emotional, relational, and ethical ways to fight the digient obsolescence. Her enduring responsibility for artificial life saves it from commercialization, highlighting the moral significance of the digients' existence. Her decision to keep Jax with her demonstrates that care and responsibility as human values extend beyond biological relationships into digital environments. Her persistent commitment to Jax's moral being and focus on their ethical relationship

demonstrate the novella's central concern: artificial life is sustained not merely through technical platforms, but requires continued human involvement, responsibility, and commitment.

Conclusion

In conclusion, the article examines how Chiang's *The Lifecycle of Software Objects* reimagines artificial life not as an independent, autonomous project, but an ethical existence shaped and sustained by human values. It analyzes how care, relational bonding, and moral responsibility play a central role in shaping the moral growth of digients in the novella. Portraying Ana's enduring relationship with Jax despite financial and technical challenges, the text establishes that code alone cannot produce socially and morally capable artificial beings. Instead, sustained human attention, emotional intimacy, and long-term commitment cultivate their ethical growth and continued existence. Ana's refusal to sell the digients to Binary Desire for commercial purposes and technical continuity, and her unwavering commitment to teaching Jax the business of living, stage the novella's central concern: artificial life grows only through sustained human engagement rather than technological sophistication alone. Adopting a qualitative textual analysis method, the article resolves the problem of artificial life through a combined theoretical framework of digital humanism, AI ethics, and care ethics, arguing that the future of artificial life depends on human commitment and ethical decision-making. The findings highlight that artificial life acquires meaning only through sustained human responsiveness, attachment, and interaction. AI environments are fundamentally shaped by human values rather than by technological systems. By foregrounding the centrality of human values even in technological contexts, the article contributes to digital humanism, AI ethics, and AI studies in literature and

cultural studies. The findings imply that AI discussions should also incorporate ethical and emotional dimensions, moving beyond purely technical domains. Future research on this novella may explore digital personhood in comparison to other contemporary AI narratives.

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