Cyborgs and Śūnyatā

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Nishitani Keiji presents a view of technology in which the pursuit of technological advancement leads to the loss of the human. Andy Clark describes a view in which humans are evolutionarily designed for utilizing tools and technology such that technology becomes a part of *our humanity. Despite the apparent conflict (Nishitani critical of technology; Clark embracing technology), the philosophical positions of Nishitani and Clark can be embedded in a larger space in which each helps inform the other. Inside this space, it becomes possible to open conversation between technology, Buddhist emptiness, and nihility.*

Nishitani's *Religion and Nothingness* pursues an exploration of the Buddhist sense of emptiness from a religious and scientific context. Nishitani focuses on the relationship between science and philosophy, as well as between science and religion, seeking to break down the idea that scientific issues can only be discussed from within the standpoint of science. His essay "Nihility and Śūnyatā," especially, presents a discussion aimed at understanding how problems that arise from the pursuit of technological advance lead to nihilism, which can then only be solved by a turn to emptiness in the Buddhist sense.

Akitomi Katsuya draws heavily on this work in pursuit of a discussion aimed at determining how Nishitani's conception of emptiness could contribute back toward technology.[1] I wish to pursue this goal further by presenting a concrete way in which the conception of emptiness allows for the discussion of technol-

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ogy, as well as a way in which current technological progress may help *facilitate* the discussion of emptiness.

I explore this viewpoint through the account Clark puts forward in *Natural-Born Cyborgs*, which examines the adaptation humans have toward the use of technology. His basic view, which I will expand on, is that technology becomes so well integrated into our lives that it becomes a part of ourselves. This serves to challenge Nishitani's conception of technology as presenting an issue for humanity and opens an avenue of exploration.

I present Nishitani's account of technology as a perversion of the laws of nature in Section I, while in Section II discussing how Nishitani sees the development of technology as leading to nihilism. In Section III I explore Nishitani's turn to emptiness in the Buddhist sense as an escape from this nihility. Section IV discusses Clark's viewpoint on technological integration into human life, while Section V explores a reconciliation between Clark's and Nishitani's view by exploring the ways they may contribute to each other. I then conclude with final thoughts on the issues presented.

I. Technology and Mechanization

Understanding the relationship between humans and the laws of nature is crucial for understanding the problems Nishitani sees stemming from technology. Importantly, there are three ways that we see the laws of nature manifested. First, we see the laws of nature as they act upon objects. If I throw a crust of bread, I can see gravity acting upon it. Secondly, we see the laws of nature within living creatures as instinct. We watch a dog jump at the crust of bread we throw, the dog manifesting the laws of nature in its instincts. Finally, there is a refraction of the laws of nature through technology, which is where humans make a unique contribution. By using rationality to capture and understand the laws of nature, we are able to build technology that uses these natural laws in order to impose our *telos* back on nature. This is the refraction through knowledge that Nishitani writes about.[2]

This embodiment of the laws of nature in mechanical technology shows that "obedience to the laws directly implies freedom from their bondage."[3] Here we have the laws of nature in place as objective fact. Humans are able to understand the laws of nature through rationality. By understanding the laws of nature, we are able to construct machines that utilize these laws to perform some task. In this way, we utilize the laws of nature to act upon nature. For example, understanding the laws of nature allows us to construct skyscrapers by utilizing bulldozers and cranes which act upon the world. In doing so, we impose our own order on nature by acting within the laws of nature.

At the very moment of freedom from the laws of nature, Nishitani sees a critical turn. The relationship that we enter with nature through technology is one that inverts itself. As humans build more technology, we become ever more reliant on this technology. Nishitani sees this as a process of inversion in which humans have used the laws of nature to control nature, but become so reliant on the tools we use to control nature that these tools control us. Thus the laws of nature control us yet again, through our technology. Additionally and more strikingly, the pursuit of technology results in a tendency toward "the *mechanization* of man, toward the loss of the human."[4] To restate this, as humankind attains an extreme freedom in controlling the laws of nature, we at once forfeit our human nature as we mechanize humanity.[5]

This is the crucial issue that Nishitani raises, so I emphasize it again with another phrasing of the problem. The original relationship between humankind and nature is distorted and indeed perverted through technology. This is what people point to when they speak of man "being dragged along by the machines he himself has built,"[6] or being slaves to our own technology. The original relationship we have with nature, in which obedience to its laws implies freedom from them, comes to an extreme and is perverted into our being radically controlled by our technology.

II. Technology and Nihility

As this mechanization happens, technology ransforms us from completely rational beings in pursuit of technological advancements into raw subjects in pursuit of our desires who utilize the technology we develop to whatever end. This mode of being, Nishitani writes, is instantiated in many forms depending on the depth of its adaptation as pure subject. It lies anywhere between a sort of proto-nihility, in which it is masked, to a full realization of the meaninglessness inherent in nature and recognition that the subject's pursuits have no ground. This is precisely how nihilism arises from the pursuit of technological advancements.

What happens here is "a fundamental intertwining of the mechanization of man and his transformation into a subject in pursuit of its desires, at the ground of which nihility has opened up as a sense of the meaninglessness of the whole business."[7] The common existentialist attempt, once nihilism is reached, is to use that nihilism as a foundation, embracing the meaninglessness as a creative space. Nishitani sees this "positive nihilism in existentialism"[8] as a step away from the mechanization of humankind. This is precisely an attempt to "climb out of the pit into which man is slipping through the perversion of his original relationship to nature."[9] However, Nishitani sees this attempt at escape impossible, for it is only through this perversion that nihility comes to light. The pit of nihilism is a result of the mechanization of the human, and so we cannot step away from this mechanization by resting on nihility. That is, we cannot escape the mechanization of the human by embracing the result of our mechanization.

Nishitani further mentions that the mechanization of humankind also underlies the problem of an imbalance between the progress of science and human morality. He writes that this is not so much an imbalance as a movement in opposite directions,[10] citing nuclear weaponry as an example. The positive potential of nuclear energy captivated scientists, but once the possibility was realized, human morality had not caught up with the technological advancement. This technology was then used to largely annihilate entire cities.

Nishitani summarizes that we have seen a tendency toward "the mechanization of the inner life and social relationships of man on the one hand, and the transformation of man into a subject in pursuit of its desires on the other,"[11] which is the tendency toward the loss of the human. A reversal of this mode, an opposition to the tendency toward the loss of the human, lies in elevating "the standpoint of the personality or spirit of man."[12] For Nishitani, "personality or spirit constitutes the core of what is genuinely human,"[13] and so must be recaptured.

A critical turn back to the original relationship of humankind to the laws of nature, the standpoint in which subordination to the laws of nature is simultaneously an emancipation from them, is required, Nishitani writes.[14] This is the only standpoint from which we can overcome the loss of the human that results from the perversion of our relationship with nature, which is caused by scientific advancement.

III. A Turn Toward Emptiness

As stated earlier, Nishitani does not believe we can take a stand on the nihility we face at the root of our perverted relationship with nature because it is only through this perversion that we come to face it. The necessary turn, he proposes, is to the Buddhist conception of emptiness, śūnyatā.

Akitomi describes this well, stating that "when one seeks the possibility of freeing oneself of nihility and firmly actualizing it in its midst, nihility may turn, within oneself, into 'emptiness.'"[15] This is necessary because nihility is seen only from the standpoint of consciousness, which is to say from the perspective of subject. As such, nihility is seen as *object* apart from self. But the manifestation of nihility at once present in the realization of meaninglessness at the root of our technological pursuit goes beyond the standpoint of consciousness and *must* become part of oneself.

To expand, nihility is seen as something outside of being. Nonetheless, we come to recognize that nihility lies at the bottom of our very being. But insofar as we see nihility only from the

perspective of conscious self, nihility "remains a relative nothingness as nonbeing in contrast to being."[16] That is, we see nihility as other from the perspective of self-being and at once at the bottom of this self-being. Even so, as a result of our perspective, we cannot reconcile self and nihility insofar as we recognize nihility only as the negation of being.

This irreconcilability is precisely the motivation for the shift to the conception of emptiness that śūnyatā presents. This emptiness is a true emptiness, an "absolute nothingness that transcends the conflict between being and nothingness."[17] This sort of emptiness is "the point at which we become manifest in our own suchness as concrete human beings, as individuals with both body and personality."[18] That is, śūnyatā is a field within which our most immediate being is manifest; it is a true emptiness lacking duality. This emptiness is not the negation of anything, nor can it be negated.

Nishitani writes of a life-oriented axis through which we can view the world, with a viewpoint that develops from life and soul to the crucial spirit or personality: the standpoint of the human. In contrast, there is also a death-oriented axis, which seeks to reduce everything to material relationships at the disregard of any *telos*: the standpoint of science. Śūnyatā, however, allows us to grasp the true 'suchness' of ourselves; our true form in which we manifest life-*sive*-death, death-*sive*-life.[19] This is a point at which life and death are not seen as contrasting, but in the nonduality of emptiness are seen always together, bound up as they are in our existence. We can thus see everything as a "'double exposure' of life and death, of being and nihility"[20] in which both life and death are manifest in us.

It is in this stage, this embrace of śūnyatā, that we are able to reconcile materiality and personality. Whereas the traditional view has the material along one axis and personality along a competing axis, making the attainment of both simultaneously an impossibility, this view of ourselves in our suchness reconciles these views as the embodiment of "being-*sive*-nothingness"[21] and allows for a standpoint reconciling personality and materiality.

This view of being-*sive*-nothingness is possible only through the realization that being is being, nothingness is nothingness, and emptiness is their true form. In this sense, being is nothingness and nothingness is being. At root, there is no difference whatsoever: both are true manifestations of emptiness. While we are ordinarily situated in being, a result of consciousness, and thus view nothingness as the negation of being, emptiness puts forward a view in which being is not the negation of nothingness and nothingness of being. Rather, emptiness is the absolute negation, within which there is no duality. This is why nothingness is being and being is nothingness.

It is precisely here that Nishitani sees a solution to the problem presented above. Emptiness comprises a field in which both the abyss of nihility and the everyday existence of our being are manifest. In such a field, nihility *can* be reconciled with being. It is through this nonduality of emptiness that this takes place. Within consciousness, nihility is seen as an object existing apart from being; the negation of being. Within nihility, things cease to have representation and appear only in their own reality. At the recognition of nihility at the root of being, consciousness is thus broken through, and being becomes pure subjectivity. Emptiness comprises a field holding both nihility and being, such that both are seen as one.

This, then, is what is key to humanity. The nonduality of emptiness is crucial for Nishitani. He writes that "only the absolute emptiness is the true no-ground (*Ungrund*)."[22] Within emptiness, all things, including life and death, are seen in their "bottomless realities," their "bottomless suchness."[23] Nihility alone cannot serve this purpose because it is always seen as a negation and so acts as a ground upon which the self ties itself.[24] Thus, only śūnyatā presents a true space of non-attachment within which we break through nihility to become truly human.[25]

IV. Cyborgianism

Andy Clark's *Natural-Born Cyborgs* presents an account wherein humans are evolutionarily designed for utilizing tools

and technology. He presents the notion of *transparent technologies* which are those that are "so well fitted to, and integrated with, our own lives, biological capacities, and projects as to become almost invisible in use."[26] For example, we may consider pen and paper transparent technologies. If I am asked to solve some multiplication problem, I will naturally reach for and utilize pen and paper to help me arrive at the answer. This sort of natural reach for the tools with no real thought about it is what makes them transparent: they are so easy to use as to be invisible in use. Rather than consciously thinking about the tools as being part of the process of arriving at an answer, I am able to ignore the tools and focus only on the multiplication algorithm. The tools used never come to mind and are thus transparent. This idea of readiness-at-hand may also be in the work of Heidegger.[27]

This is precisely the idea that Clark is getting at with his notion of transparent technology. The fact that we are biologically adept at making use of such technology is what makes us natural-born cyborgs. With this, a naturally-arising question comes to the fore: why do we say that technology is distinct from us, and not a part of our selves? Clark discusses a few conception of self including the idea that "I am the sum total of the parts I control directly"[28] and the idea of a "narrative self"[29] that we are intellectual entities operating in concert with physical embodiment and with goals that persist over time.

In both of these conceptions of self, we are plastic entities that shift according to our physical abilities and reach. The addition of a mechanical arm that we are able to control quite naturally after some time[30] can be said to indeed be part of us. Clark's example is that of performance artist Stelarc, who attached a mechanical arm to his right arm and is able to control the third hand through electrodes attached to his abdomen. By contracting different abdominal muscles, Stelarc is able to operate this third hand. Stelarc is able to control this hand independently of his other two, write with it, use it in conjunction with his biological arms, and overall operate it as well as he can his biological arms.

Given that Stelarc uses this mechanical arm as fluently as his fleshy arms, and just as unconsciously, it seems natural to say

that the arm is indeed a part of Stelarc. Stelarc's embodiment is not only a biological system but a digital system integrated into a biological system. When we talk about 'Stelarc' we refer not just to his biological parts, but to the entire body-mechanical arm system. Thus the mechanical arm is indeed a part of Stelarc. This holds true even for control and sensing across a distance. As Stelarc attaches a mechanical arm to his biological arm, so too can we imagine attaching an arm and camera to the wall and becoming so natural in our use of the arm and camera that they become a part of ourselves. We are thus embodied in distinct locations of physical space.

To further illustrate this idea of transparent technology, let us consider an example. If a piece of information is readily accessible (e.g. as easily as the time from a watch), it can be said that we know this information, even if it is retrieved through some digital mechanism.[31] Suppose I have an implant in my brain that interfaces with the internet. If I am asked, "What is the capitol of Iowa?" I will respond, "Des Moines," with very little delay. This may be because this information is stored somewhere in my neural circuitry, or it may be because the implant retrieved that information and fed it to my brain. Regardless, there seems to be no difference in my ability to retrieve and utilize that information and so I can be said to know what the capitol of Iowa is. Current information streams from, say smartphones, are not yet so close at hand, but it is not unbelievable to imagine they soon will be. At such a point, it seems that the idea that technology is different from self breaks down. Rather than simply using technology, technology becomes a natural part of who we are, an extension of ourselves.

V. Reconciliation

Nishitani writes that in its original form, the relationship of humans to nature was characterized by our submission to the laws of nature implying a freedom from their bonds. The perversion that takes place is the over-reliance on technology that we come to have. As technology embodies the laws of nature and operates strictly according to them, if we rely on technology to a

very high degree, nature takes on a more radical control over us than it did in its original form.

With Clark's account in place, we may begin to challenge Nishitani's conception of technology perverting our original relationship with the laws of nature. Just as nature manifests its laws through our own instincts and those of other animals, so too are the laws of nature manifested through technology which becomes a *part of* ourselves as we see in Clark's account. Thus we see that the problem Nishitani presents of our relationship with nature dissolves. Rather than being *reliant on* technology and thus radically controlled by nature, we become *one with* technology and so stand in the same relationship with nature we originally did.

Such a conception certainly requires a shift in perception, but one that is nonetheless conceivable at present. This sort of conception changes what it means to be human. At its root, however, such a view is not as radical as it may appear, even given Nishitani's reading. After all, the turn toward śūnyatā brings with it the realization that our own suchness and the suchness of technology are in fact no different. Both our biological parts and technological parts stand in the field of emptiness as the same. They may take on different instantiations of Form inside this field of emptiness, but nonetheless are the same *qua* emptiness. In this way, Nishitani's perspective of śūnyatā allows us to open new avenues for exploration of the nature of human existence in light of technological progress, contributing back to the discussion of technology from the standpoint of emptiness.

In this larger embedding space in which Nishitani's and Clark's views lie, we may turn toward other issues that Nishitani raises. He cites the progress of human morality as falling behind technological progress. This has largely been the case in the current digital age of machine learning, though significant work is being done to this end.[32, 33, 34] Significant thought has recently been put into how technological progress impacts employment[35, 36, 37] and possible solutions to feared widespread automation. The positive potential of technology can also be seen in various ways that technology has highlighted and elevated human creativity.[38, 39, 40] Looking at technology as an extension of human life rather

than as distinct from our selves becomes more important as tools continue to get smarter and integrate further into our lives. There is a distinct difference between a hammer and the aforementioned brain implant in the level of integration into human life. Nishitani's viewpoint can be read as pointing toward this by realizing that technology, in emptiness, is no different from self. Clark's account points directly toward this notion by driving technology and humanity together.

Most important to Nishitani's conception of humanity, as we saw, was the breaking through of nihility by recognizing Buddhist emptiness. Clark's conception of technology helps *facilitate* a turn toward śūnyatā by providing an explanatory device in illustrating the Buddhist notion of no-self. The Buddhist idea is that ultimately I have no self; there is only this emptiness. Insofar as I can be identified, it is only because I instantiate what are called the *five aggregates*. These are (1) material form (physical embodiment), (2) sensation (physical and emotional feeling), (3) perception, (4) "mental formations" (attitudes and dispositions), and (5) consciousness.[41] If we take away the five aggregates, there is no self to be found. Clark's notion of cyborgianism offers a real-world flexibility of self that requires only a small step to imagine what there is when the parts all go away: śūnyatā.

We can now imagine, without much difficulty, the idea of adding physical parts to ourselves and imagine these parts as being constituents of ourselves. It is not a large step, then, to imagine what happens when we begin taking away parts. As we can imagine adding a mechanical arm to Stelarc, we can imagine taking away a biological arm. We may then remove the other arm, both legs, and consciousness. What is left is this Buddhist emptiness. There is no 'Stelarc' to be found outside the conglomeration of parts, both biological and technological. This sidesteps the need to use technology as a tool in driving toward nihility by questioning the notion that we are stable selves head on. We thus move directly from self to śūnyatā and bypass the need to force a viewpoint of technology leading to nihilism from which we must escape through emptiness.

Notes

1. Akitomi Katsuya, "On the Possibility of Discussing Technology from the Standpoint of Nishitani Keiji's Religious Philosophy," *Journal of Japanese Philosophy* 2, no. 1 (2014): 57-73.

2. Katsuya, "On the Possibility of Discussing Technology from the Standpoint of Nishitani Keiji's Religious Philosophy," 57-73.

3. Keiki Nishitani, *Religion and Nothingness,* trans. Jan Van Bragt (Oakland: University of California Press, 1983), 83.

4. Nishitani, *Religion and Nothingness*, 85.

5. Ibid., 87.

6. Ibid.

7. Ibid., 88.

8. Ibid.

9. Ibid.

10. Ibid., 87.

11. Ibid., 89.

12. Ibid.

13. Ibid.

14. Ibid.

15. Katsuya, “On the Possibility of Discussing Technology from the Standpoint of Nishitani Keiji's Religious Philosophy," 63.

16. Ibid., 64.

17. Ibid.

18. Nishitani, *Religion and Nothingness*, 90.

19. Ibid., 94.

20. Ibid., 93.

21. Ibid., 97.

22. Ibid., 34.

23. Ibid.

24. Ibid.

25. Ibid., 33.

26. Andy Clark, *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence* (Oxford: Oxford University Press, 2003), 37.

27. Martin Heidegger, *Being and Time* (New York: Suny Press, 2010).

28. Clark, *Natural-Born Cyborgs,* 130.

29. Ibid., 132.

30. Ibid., 116.

31. Ibid., 43.

32. Tolga Bolukbasi, Kai-Wei Chang, James Y. Zou, Venkatesh Saligrama, and Adam T. Kalai, "Man is to computer programmer as woman is to homemaker? debiasing word embeddings," *Advances in Neural Information Processing Systems* (2016), 4349-4357.

33. Shaun Lawson, John Vines, Mike Wilson, Julie Barnett, and Manuela Barreto. “Loneliness in the Digital Age: Building Strategies for Empathy and Trust.” In *Proceedings of the CHI 2014 workshop on Enabling Empathy in Health and Care* (2014).

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36. James Manyika, Michael Chui, Mehdi Miremadi, Jacques Bughin, Katy George, Paul Willmott, and Martin Dewhurst, "A Future that Works: Automation, Employment, and Productivity,” McKinsey Global Institute (2017).

37. Chris Weller, "Elon Musk Doubles Down on Universal Basic Income: 'It's Going To Be Necessary.'," *Business Insider* (2017) http://www.businessinsider.com/elon-musk-universal-basic-income-2017-2.

38. Jesse Engel, Cinjon Resnick, Adam Roberts, Sander Dieleman, Douglas Eck, Karen Simonyan, and Mohammad Norouzi.

"Neural audio synthesis of musical notes with wavenet autoencoders," *arXiv preprint arXiv:1704.01279* (2017).

39. Bhautik Joshi, Kristen Stewart, and David Shapiro. "Bringing impressionism to life with neural style transfer in come swim," *Proceedings of the ACM SIGGRAPH Digital Production Symposium* (2017), 5.

40. "Trevor Paglen's Sight Machine, a new multimedia performance in collaboration with the Kronos Quartet and Obscura Digital at San Francisco's Historic Pier 70," Cantor Arts Center at Stanford University (2017). https://museum.stanford.edu/about/press-releases/cantor-arts-center-presents-trevor-paglens-sight-machine-new-multimedia

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