

*Concentric: Literary and Cultural Studies* 45.1  
March 2019: 69-91  
DOI: 10.6240/concentric.lit.201903\_45(1).0004

## **Cybernetic Warfare: The Cold War Poetics of Elizabeth Bishop\***

Gi Taek Ryoo

Department of English

Chungbuk National University, Republic of Korea

### **Abstract**

Written during the Cold War, the poetry of Elizabeth Bishop illuminates a cultural moment when cybernetic imagery or cybernetic modes of thinking infiltrated social and political discourse and rhetoric. Bishop's notion of poetry as portraying "a mind thinking" echoes the technological insights of "cybernetics" that sought to specify the ways in which human minds and machines operate. Cybernetic frameworks attune us to Bishop's Cold War poetics and her artistic strategies for communication in an increasingly technology-driven world. The thematic and structural elements of Bishop's work find a poetic means by which to reactivate the socio-cultural dynamics of cybernetics science in the form of aesthetic assimilation of and resistance to power and control. As a result, the complex social, cultural, and technological realities are made to interact with and shape each other within the artistic composition of Bishop's poems. This paper demonstrates how Bishop's poems embody the self-reflective paradox of cybernetics (both formative and transformative, and also both mechanical and self-organizing), which was deeply embedded within the socio-cultural dynamics of the Cold War period.

### **Keywords**

Elizabeth Bishop, cybernetics, feedback, Cold War, self-organization, counterculture

---

\* This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2016S1A5A2A01927673).

## Introduction

The mid-century American poet Elizabeth Bishop (1911-79) once discussed her own writing in a letter dated November 20, 1933. She was then a senior student at Vassar College and had been writing professionally for only two years. The letter opens with her defense of poetry, which she claims, “is in action, within itself” (*One Art* 11). Bishop alluded to M. W. Croll’s thoughts on the writers of Baroque prose to describe her own poetry, quoting passages from his essay: “Their purpose was to portray, not a thought, but a mind thinking. . . . They knew that an idea separated from the act of experiencing it is not the idea that [is] experienced” (*One Art* 12). Bishop was able to recognize that, for the Baroque writers, an idea can be made *felt* and “experienced” only when it reflects the act of thinking. It is indeed the “mind thinking” whose motions Bishop herself has struggled to comprehend and incorporate into her own poetry. Bishop’s notion of the observing mind as organizing experience intimates a fundamental way of thinking and knowing, which betrays a questionable desire to control or master what is unintelligible and impenetrable.

Many eminent critics of Elizabeth Bishop’s work have discussed Bishop’s natural inclination toward some kinds of order and cognitive control. They all seem to agree that Bishop’s poetics is committed to “questions of mastery” (Costello 10) or “domestication” (Vendler 32). They chart, in Bishop’s poems, an “ordering mind” that expresses both desire for and resistance to the dynamics of mastery that the poet would recognize as illusion or myth. Several other critics have noted that Bishop’s poetry, when placed in a socio-political context, exhibits a strong urge for order and dominance, as well as a keen sense of resistance to social and political control. This paradoxical disposition leads her to take a precariously equivocal stance, both aligned with and opposed to the Cold War ideology of “containment” (Axelrod 856; Roman 23). This stance characterizes Bishop’s “Cold War poetics” (Axelrod 843). However, Bishop is not so much concerned with what reality *is* as with how we relate to reality and how we construct our own reality. Bishop’s desire to master reality is not a dualistic conflict between inner and outer reality; it is rather a self-organizing principle of the human mind and life, one which finds its scientific counterpart in the technological insights of the “cybernetics” of her time. Bishop’s questions of mastery can be better illuminated by the insights provided by cybernetics science, which contributed to a Cold War culture of containment but also to the countercultural resistance to that culture. While there is no sign of any relationship of influence between Bishop and cybernetics (there is no evidence of

her awareness of this scientific development), her poetry nonetheless mirrors the socio-cultural dynamics deeply connected with the technological assumptions of cybernetics science.

Cybernetics, which emerged during World War II, has found its way gradually into cultural and political narratives. During the Cold War period, cybernetics of “the first order” was widely received and employed by government authorities to navigate and control social unrest and disorder, and all the uncertain elements associated with wartime politics. It became a symbol of large, centralized bureaucratic institutions. However, in the 1960s and 1970s, the ideas of cybernetics were (re)appropriated by or fed back into the discourse of counterculture that had begun to subvert the supposedly cold and bureaucratic world.<sup>1</sup> The so-called “second-order” cybernetics provided new technical models for decentralized, adaptive, and more efficient systems of self-organization. Cybernetics, once dismissed as a tool of bureaucratic control, was now embraced as a symbol of individual expression and liberation. If first-order cybernetics corresponds to the social and political control exercised during the immediate postwar period, then the second order, with its holistic, organic mode of self-regulation, corresponds to the countercultural subversion of technocratic centers of authority.

The work of Elizabeth Bishop embodies the complex cybernetic warfare during the Cold War, reactivating the socio-cultural dynamics of cybernetics in the form of aesthetic assimilation of and resistance to power and control. Her poetry is deemed to have employed the technological and mechanical features of first-order cybernetics, only to reject them by incorporating the liberal and self-organizing aspects of second-order cybernetics, which are already implicated in the first order. In this paper, I examine some of Bishop’s representative poems including “The Moose” (1976), “The Gentleman of Shalott” (1946), “View of the Capitol from the Library of Congress” (1955), and “Questions of Travel” (1965), to demonstrate how her poetry reflects the paradoxical aspects of cybernetics, the tension between domination and liberation, between the mechanical form of automation and the organic form of “autopoiesis”—self-making. The task of this study, however, is not to suggest that Bishop’s poetry developed chronologically in parallel with these

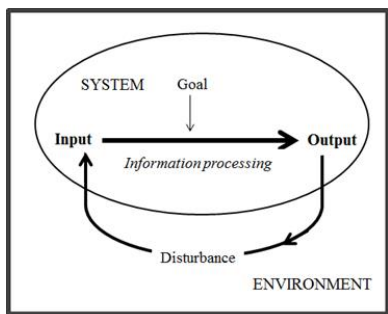
---

<sup>1</sup> While the cybernetic assumptions of control and communication offered US political and military authorities an effective model for centralization of power and automatic control during the 1950s (see Bousquet; Edward), many countercultural artists, hippies, and anti-war activists of the 1960s and 1970s, as I will demonstrate later, sought through the cybernetic notions of self-organization a vision of an alternative, decentralized society that emphasized individual freedom and communal organization (see Belgrad; Brand; Turner).

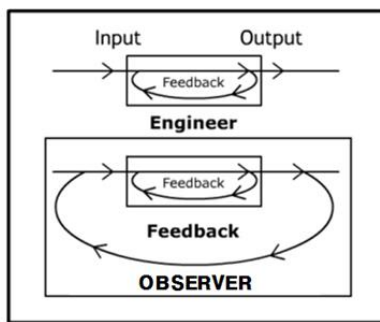
technological and socio-cultural practices, but rather to explore how her poetry embodies the self-reflective paradox of cybernetics that was deeply embedded within the socio-cultural dynamics of the Cold War period.<sup>2</sup>

## Cybernetics and Self-Reflective Feedback

The field of cybernetics has evolved over the past seventy years from the study of human-machine interaction, to the analysis of artificial intelligence and cyborgs, and currently, to the study of ecological systems. The founder of cybernetics, Nobert Wiener, in his book *Cybernetics: Or Control and Communication in the Animal and the Machine* (1948), defined cybernetics as a theory of control of the behavior of machines, organisms, and organizations via feedback circuits. During World War II, Wiener was involved in the development of a computer program for an automatic anti-aircraft firing system that could calculate the trajectory of an aircraft so that the gun could automatically readjust its position to hit the target (Bousquet 79). The term “cybernetics” has its roots in the Greek word for “steersman” or “governor” and reflects Wiener’s belief that the anti-aircraft unit could become a self-steering device. This self-correcting behavior is similar to the phenomenon of “homeostasis,” which is the ability of living organisms to maintain steady states.



**Figure 1. Cybernetic Feedback System**  
(Picture redrawn from Heylighen 164)



**Figure 2. Second Order Cybernetic System**  
(Picture redrawn from Bateson, “Conversation” 37)

<sup>2</sup> While the development of cybernetics science proceeded chronologically from the first order to the second, such a transposition, in Bishop’s poetry, occurs not in a progressive manner in her writing career, but rather in a concurrent fashion within the same cognitive field of composition, because Bishop’s persistent strategy is to observe the role of observation (i.e., to portray “a mind thinking”) while at the same time observing the external world.

The fundamental mechanism of cybernetics is the feedback loop, which is enabled by the flow of information that links all the components together and allows the system to respond to changes in the environment and adjust its behavior accordingly. As shown in Fig. 1, a goal-directed agent, whether a machine or a human, tries to achieve the state of homeostasis by eliminating or “processing” any difference between its present situation and its desired goal—an action performed to move closer to its preferred situation (Heylighen and Joslyn 164-65). Gregory Bateson defines the difference or disparity between the previously received idea and the newly arriving one as “information”; for him, “information consists of differences that make a difference” (99), which is to be effectively processed (reduced) in each successive feedback circuit.<sup>3</sup> Cybernetics is concerned with how systems use information and control actions to achieve their goals, while counteracting various environmental disturbances.

Until the 1950s, cyberneticians had focused on homeostatic processes and feedback loops; the general assumption was that the observer was outside of the system being observed. In the 1960s, however, a clear shift in thinking emerged. Cyberneticians began to see themselves as part of the system they were observing, because the results of their observations were seen to be dependent on their interactions. The first circuit of the feedback loop is incorporated into the second, higher circuit of the feedback loop, together forming what Von Foerster referred to as the “cybernetics of cybernetics” (289). This circularity characterizes second-order cybernetics, in which cognitive processes construct reality via the interactions that occur between the subject and the environment, so that the observer is inseparable from the observed system. Bateson’s second box, as shown in Fig. 2, illustrates how second-order cybernetics has evolved into “the feedback of feedback, locating the observer both within and without the system to be observed” (Clarke, *Neocybernetics* 89). The recursive circularity of feedback loops, which is already embedded within the first order, expresses the self-organizing principles of second-order cybernetics.

While first-order cybernetics emphasizes homeostasis, the second order concerns itself less with the mechanisms of control and closure, and more with the creative and unpredictable capacities of self-organizing systems. The first order focuses on the study of feedback loops internal to an observed system, while the

---

<sup>3</sup> A common example of the cybernetic model is a thermostat, a thermostatically controlled heating system which responds to messages of difference (e.g., Bateson’s “information”) between a specified ideal temperature and the actual temperature of the room, thus maintaining homeostasis or a state of stability within the system.

second order includes the observer in the observed system. Whereas first-order cybernetics is concerned with systems that operate in accordance with a goal set by an outside controller, the self-organizing systems aim at the continuing production of their “autopoiesis.”<sup>4</sup> Second-order cybernetics is based on the principles of interaction (not dominance), change and process (rather than control), and the recursive engagement of the system with its surrounding environment.<sup>5</sup>

### Geography of Mind: “Constant Re-Adjustment”

Many of Bishop’s poems portray the geography of the mind. They investigate the cognitive processes involved in how the mind seeks equilibrium or homeostasis in an ever changing environment; in other words, “how [the] mind represents the world to itself while voyaging out from ideas toward its objects and adjusting those ideas according to a new environment” (Costello 130). Bishop’s notion of the observing mind as organizing experience reflects the cognitive system of cybernetics that describes the interconnections and similarities between the ways in which both technology and human beings operate. Wiener’s definition of cybernetics as feedback control may serve as a fitting metaphor for Bishop’s compositional strategy in some of her poems. Bishop often employs the method of *analogy*, describing the unknown object in terms of a known object or thing, thereby bringing the unknown or threatening “other” within the realm of the known. Analogy is a cognitive process of transferring information from the source to the target: “The purpose of analogies is to adapt knowledge available about the source conceptualization such that it can be applied to the target in a way that new analogous inferences can be drawn” (Gust et al. 8). The crucial point to understand about analogy is that the process is not natural or neutral but always goal-oriented.

---

<sup>4</sup> The original definition of “autopoiesis” can be found in Maturana and Varela’s *Autopoiesis and Cognition*, in which the authors argue that the living organism can be conceptualized as a system of relations sustained by its processes themselves. They add that “for a machine to be autopoietic, its defining relations of production must be continuously regenerated by the components which they produce” (79).

<sup>5</sup> Second-order cyberneticians such as Von Foerster, Bateson, and Maturana were themselves directly involved in the development of the first order. From first-order cybernetics (1940s and 1950s) to second-order cybernetics (1960s and 1970s), there has been “a continuous development towards a stronger focus on autonomy and the role of the observer, rather than a clean break between generations and approaches” (Heylighen and Joslyn 157). The circular causality or “recursivity”—A causes B *and* B causes A—is indeed inherent in first-order cybernetics, but it is the second order that has pursued the full implications of this self-reflective paradox.

In attempting to draw likeness between different and often conflicting objects, it is necessary to hold a set of assumptions (or goals) about the world, so that the “difference” (information) can be reduced (processed).

Because the world is understood in terms of relationships and correspondences, the use of analogy allows Bishop to perceive similarities between dissimilar objects or abstractions in different domains so that she makes sense of the world while expanding her cognitive horizon. Bishop’s poetry, as Vendler has observed, is characterized by “domestication” through “the continuing vibration between two frequencies—the domestic and the strange” (32). It is this contradictory tension that provokes the cybernetic attribute of “difference” between the experienced (unfamiliar) situation and the preferred one. For Bishop, the foreign, which exists within a background of unruly nature, represents a disturbance in the environment that challenges our conventional frames of thought. This conversion of the strange to the familiar, of the unexplored to the knowable, is analogous to the feedback loop that occurs between a system and its environment. Much like the cybernetic control that stabilizes a system, the conversion endows a number of Bishop’s poems with a state of mental equilibrium.

One of Bishop’s most well-known poems, “The Moose,” serves to demonstrate the feedback analogy. In the poem, the moose, which suddenly intrudes into the scene of travel, represents an environmental threat or disturbance that must be addressed. The moose is a creature apparently untamed and totally other. The bus stops with a “jolt” because “A moose has come out of / the impenetrable wood.” The passengers, encountering this environmental disturbance, translate the strange animal into something “[p]erfectly harmless,” something “plain,” familiar, and identifiable as a female (“she”) that is either tamed or tamable.

—Suddenly the bus driver  
stops with a jolt,  
turns off his lights.

A moose has come out of  
the impenetrable wood  
and stands there, looms, rather,  
in the middle of the road.  
It approaches; it sniffs at  
the bus’s hot hood.

Towering, antlerless,  
high as a church,  
homely as a house  
(or, safe as houses).  
A man's voice assures us  
"Perfectly harmless. . . ."

Some of the passengers  
exclaim in whispers,  
childishly, softly,  
"Sure are big creatures."  
"It's awful plain."  
"Look! It's a she!"

Taking her time,  
she looks the bus over,  
grand, otherworldly.  
Why, why do we feel  
(we all feel) this sweet  
sensation of joy?

"Curious creatures,"  
says our quiet driver,  
rolling his *r*'s.  
"Look at that, would you."  
Then he shifts gears. . . . (*CP* 172-73)

The poem is a record of Bishop's own experience on a bus from Nova Scotia to Boston in 1946. The dreadful and mysterious moose she ran into on her journey is, in the poem, converted into a creature as "high as a church" and "homely as a house." The use of "homely" may suggest a certain uncanny quality in the moose, the combination of the familiar and the strange, as described by Vendler (23-28).<sup>6</sup>

---

<sup>6</sup> While Vendler does not mention Freud in her text, the combination of the strange and the familiar referred to by Freud in his essay "The Uncanny" is the paradox that lies at the heart of the concept of "home." Freud defines the "uncanny" (*unheimlich* in German) as the perception of something as *unhomely*, of home but not homely (123-25). The uncanny is the psychological experience of something as *strangely familiar* which arises as the recurrence of something long



This conversion of the “impenetrable” to the knowable (“church” and “house”) epitomizes the cybernetic moment of information *being processed*, which returns the passengers’ minds to a state of equilibrium or homeostasis (i.e., back to normal). “Information,” Wiener argues, “is a name for the content of what is exchanged with the outer world as we adjust to it, and make our adjustment felt upon it” (*The Human Use* 26-27). For Bishop, this information intimates the inevitable intrusion of unruly and uncontrollable elements into our lives; we are bound to process such elements by reacting to them defensively.

If we characterize the difference between first- and second-order cybernetics as the movement from an observed toward an observing system, the poem dramatizes this shift of focus in cybernetics (i.e., the recognition of the presence of the observer within a system). After all those domesticating tasks, which have helped the passengers feel “safe” and comfortable inside their concealed position (“bus”), they experience the peculiar moment of encounter with the moose (“Taking her time, / she looks the bus over”), which immediately leads them to observe their own minds (“Why, why do we feel / (we all feel) this sweet / sensation of joy?”). The moose and the passengers appear momentarily entwined, sharing the same realm of existence within a single moment. Indeed, the passengers are observing their “[c]urious” minds within, not merely the “[c]urious creatures” without. It is this “otherworldly[-ness]” attributed to the creature that they find deep inside their minds. “Second-order observation emerges,” Clarke says, “when a story is told within a story, and we observe both the story and its teller simultaneously” (*Posthuman* 72).<sup>7</sup> The act of observing the observer’s mind often provokes a mixed emotion of ease and unease as the observer’s mind is fed back into the system, creating a sort of external disturbance. The passengers feel ill at ease (*unhomely*) as they observe the *strangely familiar* moose. The uncanny feeling of “the sweet / sensation of joy” is evoked both by the temporary assurance and by the undeniable sense of threat lurking within the familiar world. The act of domestication reintroduces the strange into the familiar, thus (re)producing “difference” (information) on another level.

---

forgotten and repressed.

<sup>7</sup> This is the condition of second-order observation we can identify in another of Bishop’s poems, “In the Waiting Room” (1976), which pictures an abrupt recognition of what one is to oneself. The child is frightened to realize that she shares an identity with her aunt. This likeness is “unlikely,” she says, questioning “Why should I be my aunt, or me, or anyone?” The child marks herself out as an object of observation, something unfamiliar even to herself, by looping together the observer and the observed.

This kind of recursion abounds in Bishop's poetry. Bishop's aesthetic system of observing reality *already* includes the (second-order) observing mind within itself. Even her early poem "The Gentleman of Shalott" appears to represent this self-reflective feedback loop. The poem exhibits a mastering process in a circular fashion. The gentleman in the looking glass who is split down the middle into half man and half reflection (a mirrored image of the first half) has to make a "constant re-adjustment" to match the other half so that he can obtain a full picture of his being, a unified whole.

Which eye's his eye?  
Which limb lies  
next the mirror?  
For neither is clearer  
nor a different color  
than the other,  
nor meets a stranger  
in this arrangement  
of leg and leg and  
arm and so on.  
To his mind  
it's the indication  
of a mirrored reflection  
somewhere along the line  
of what we call the spine.

He felt in modesty  
his person was  
half looking-glass,  
for why should he  
be doubled?  
The glass must stretch  
down his middle,  
or rather down the edge.  
But he's in doubt  
as to which side's in or out  
of the mirror.  
There's little margin for error,

but there's no proof, either.  
 and if half his head's reflected,  
 thought, he thinks, might be affected.

But he's resigned  
 to such economical design.  
 If the glass slips  
 he's in a fix—  
 only one leg, etc. But  
 while it stays put  
 he can walk and run  
 and his hands can clasp one  
 another. The uncertainty  
 he says he  
 finds exhilarating. He loves  
 that sense of constant re-adjustment.  
 He wishes to be quoted as saying at present:  
 "Half is enough." (CP 9)

The moment of mastery, of the man *organizing* his *self* in the glass, always reveals a difference from the order revealed in the previous circuit. Each ordering moment contributes to the creation of different contexts, thus creating a set of disturbances, which are subsequently fed back into the system. This process of self-organizing, or organizing one's self, embodies second-order cybernetics, which locates the observer both within and without the system to be observed. The gentleman's activity of interpreting and controlling the other half of himself reflected in the glass (the environment) inevitably contributes to shaping and altering the very environment he aims to comprehend. The experienced object of the first circuit is looped with the experiencing subject of the second circuit, together forming a "cybernetics of cybernetics." The gentleman, though perplexed, finds this complexity, or "uncertainty," involved in the self-reflective process rather "exhilarating," professing assuredly that "Half is enough," because the other half always remains to be created by the observer's presence, or according to his present goals: "He loves / that sense of constant re-adjustment." Any organized system must necessarily interact with the environment, and change or evolve with time, to maintain its organization. It is this process of self-organization through feedback adjustment that constitutes the structural principles of autopoiesis.

## Cold War Cybernetics and Counterculture

After the publication of Wiener's *Cybernetics* in 1948, the language and ideas of cybernetics became prevalent throughout the United States. Cybernetics was embraced in certain cultural sectors as a symbol of individual expression and liberation that would consequently bring about a "re-adjustment" or "change" of bureaucratic and authoritative Cold War society. As early as 1949, one of the country's leading poets, Charles Olson, was able to recognize its cultural significance, as evidenced by his famous poem "The Kingfishers."

What does not change / is the will to change

.....

Not one death but many,  
Not accumulation but change, the feed-back proves,  
the feed-back is

The law

Into the same river no man steps twice

.....

To be in different states without a change  
is not a possibility

We can be precise. The factors are  
in the animal and / or the machine the factors are  
communication and / or control, both involve  
the message. And what is the message? The message is  
a discrete or continuous sequence of measurable  
events distributed in time (167-71)

The language of cybernetics provided imagery and knowledge for "different states" of society as sorts of phase-changes provoked by the feedback loop. "[T]he feed-back is / The law," Olson states, associating it with the famous Heraclitus aphorism,

revealing a desire on the poet's part to articulate the paradox of self-reflection, of "permanence in change, change itself as a form of permanence" (Hatlen 563). While to many pre-counterculture artists like Olson, Wiener's idea of feedback implied a progressive "change," to the policy makers of the time, it meant a conservative "control." During the Cold War, US policy-makers stressed social conformity and national security using the concepts and methodologies provoked by the closed system of first-order cybernetics.

The "containment" policy is the epitome of this phenomenon: it emphasizes the maintenance of order, stability, and equilibrium, thus contributing to the establishment of a *closed social system*. The theory of control and communication legitimated the extension of scientific technological explanations to the social world.<sup>8</sup> In an age dominated by fear of the invisible threat of communism, the international containment policy was also applied at a domestic level. Under the aegis of McCarthyism and its aftermath, civil rights activities and any form of unconventional gender or sexual expression were treated as domestic subversion that threatened America's national security. Racial minorities, feminists, and homosexuals were considered as deviating from the state-supported ideal of a white, patriarchal, heterosexual society. De Hart notes that, in times of national crisis, "formative configurations of gender, sexuality and nationhood" are "often reasserted, sometimes coercively, in constructions of national identity" (143). The need for order and control therefore justifies the ongoing demarcation and suppression of people who are considered "different." Thus, domestic containment was a response to the ubiquitous threat of problematic "others" at home; the result was "a new construction of national identity" through "the shaping of particular forms ['goals'] of gender and sexuality against other forms" (143). Prompted by cybernetic surveillance and bureaucratic control, the US became an increasingly homogeneous or homeostatic society, suppressing "different others" and thus reducing disturbances in the domestic environment. The feedback mechanisms of cybernetics were effectively used to coerce individuals, groups, and organizations into conforming to the American ideal for the purpose of maintaining stability and

---

<sup>8</sup> The "containment," Edwards claims, was "the central metaphor of closed-world discourse" with "its image of an enclosed space surrounded and sealed by American power" (8). For Bousquet, "cybernetics promoted an understanding of organisms, machines and organizations in terms of closed systems [and was consequently] a perfect match for the desire of politicians and [the] military for greater control" (82). Domestic containment is a logical extension or application of the closed world-system inspired and mobilized by first-order cybernetics.

equilibrium during the Cold War. At a time of technical solutions, social and political control was exerted through technical means.

However, during the 1960s and early 1970s, the technocratic control that had shaped American society came to be seen rather as a threat to the very democracy it had sought to defend. Many anti-war activists and hippies began to question the goals set forth for them and for society, together forming a youth counterculture that sought to break from the values and lifestyles identified with authority and the establishment. They revolted against the closed system of Cold War America, fighting “their way free of technocratic entrapment” (Roszak 73). This self-reflective engagement with the problems of the containment system allowed the youth of America, ironically, to reconceive the ideas of cybernetics as an alternative to the dominant enframing culture. Despite its origins in military research and its description as a science of control, cybernetics was able to present itself as a liberating technological assumption that would free individuals from the Cold War culture of containment. Control, for adherents of the counterculture, was a decentralized function of the system itself: a self-regulating mechanism emerging from the complex patterns of interconnection. What they sought was not a hierarchical control, but a kind of recursive control that could be achieved through the self-adjusting network system. The computer, a technology to which cybernetics had given birth, began to evolve from an enemy of individuality to a tool of personal empowerment.<sup>9</sup> Fred Turner, in his work *From Counterculture to Cyberculture*, demonstrates how ideas about cybernetics fostered by Cold War discourse underwent an ironic transformation, eventually becoming the foundation of the counterculture (chs. 2, 3). In particular, Turner quotes Richard Brautigan’s poem, “All Watched Over by Machines of Loving Grace” (1967), to illustrate the countercultural, democratic vision of the cybernetic world.

I like to think (and  
the sooner the better!)

---

<sup>9</sup> Cybernetics is deeply interconnected with the early development of personal computing as well as 1960s counterculture. Markoff, in his *What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry*, argues that “Personal computers” designed for single individuals would emerge initially “in concert with a counterculture that rejected authority” and “corporate technology” (xv). Brand also claims that “the counterculture’s scorn for centralized authority provided the philosophical foundations of not only the leaderless Internet but also the entire personal-computer revolution” (qtd. in Markoff xii), the technologies that were not yet fully developed at the time. The PC came to market in the 1970s; the Internet as a public communications medium emerged in the 1990s.

of a cybernetic meadow  
 where mammals and computers  
 live together in mutually  
 programming harmony  
 like pure water  
 touching clear sky.

I like to think  
 (right now, please!)  
 of a cybernetic forest  
 filled with pines and electronics  
 where deer stroll peacefully  
 past computers  
 as if they were flowers  
 with spinning blossoms. (qtd. in Turner 38-39)

In the poem, nature (“mammals,” “flowers”) and “computers” are figured as “mutually programing” as they are inextricably coupled together through a cybernetic feedback loop. Cybernetics, for Brautigan, offers an alternative method of organizing a community to that of centralized Cold War society, allowing an autopoietic system to evolve in a manner reminiscent of an ecological process (“computers / as if they were flowers”). Brautigan’s techno-ecological system is not homeostatic but progressive, ending in a communal (self-)organization. The *cybernetic counterculture* transformed bureaucratic control into an alternative practice through which to fashion a new and more democratic, self-organizing society. “At the core of this image of decentralized authority,” as Belgrad notes, “is the model of *autopoiesis*, or a self-adjusting network of feedback loops. This dynamic is now thought to describe the ‘chaotic’ functioning of complex systems as diverse as human subjectivity, the global market, and the ecosystem” (61-62; italics in original). Adherents of the counterculture explored the use of feedback, both as a creative method and as an alternative to authoritative control, guided by the vision of the decentralized, autopoietic network.

### **The Cold War and *Questions of Travel***

Bishop’s autobiographical poems, written particularly in the 1950s and the 1960s, demonstrate how she effectively disavows the closed system of containment

culture and embraces some of the values and beliefs of the counterculture. The recursive vision of Bishop's poetry works at both levels of the feedback loop—the first and the second order, usually with the first order foregrounded with the second lurking behind to subvert the former. “View of the Capitol from the Library of Congress,” written during her tenure as a poetry consultant to the Library of Congress (1949-50), reveals Bishop's unease with and defiance of the Washington establishment. In the poem, the music played by the Air Force band on the steps of the Capitol falters before it reaches the speaker in the Library of Congress because the sounds are intercepted by the trees between the Capitol and the Library, between the center of control and the reservoir of information.

On the east steps the Air Force Band  
in uniforms of Air Force blue  
is playing hard and loud, but—queer—  
the music doesn't quite come through.

It comes in snatches, dim then keen,  
then mute, and yet there is no breeze.  
The giant trees stand in between.  
I think the trees must intervene,

catching the music in their leaves  
like gold-dust, till each big leaf sags.  
Unceasingly the little flags  
feed their limp stripes into the air,  
and the band's efforts vanish there.

Great shades, edge over,  
give the music room.  
The gathered brasses want to go  
*boom—boom.* (CP 69)

The speaker appears to be listening to impotent patriotic music that “doesn't quite come through,” despite its being played “hard and loud,” because the landscape of “the giant trees stand in between.” The band music creates annoyance, which she effectively counteracts against with the trees. The music is conveniently housed in the “[g]reat shades” of the trees, where “the band's efforts vanish,” a scene that she



covertly entertains, while assuming an air of attention to the music. As Axelrod notes, the poem “subverts, while employing, the dominant ideological [and technological] structures of its time” by locating the external threat (the military music), not in a foreign land, but in the American Capitol itself (859). The poem evokes Washington’s national security policy only to feed it back into itself, making the containment policy seem all the more inevitable while simultaneously subverting the associated ideology from within.

It is, therefore, not surprising that the poetry consultant placed herself both inside and outside containment culture. “While she was generally perceived as an ‘insider’ of the government,” Roman claims, “her lesbian identity further intensified her contradictory high-risk position in a Cold War homophobic culture that would stigmatize her with the label of ‘outsider’” (19). Bishop had to deal with the normative heterosexual paradigm that defined Cold War politics, seeking ways to subvert, in her poetry, the ethos of cybernetic control implicated in Cold War rhetoric. The result is “a dialogical narratology with levels of interrelated consent and dissent” (Roman 23). Bishop appears to both conform to and rebel against Cold War containment culture, thus taking a dangerous double-stance. With the recursive circuit of self-reflectivity between the observer and the things observed, between being a government insider and a lesbian outsider, Bishop was able to subvert first-order cybernetic control through “surreptitious conformity,” both as “an aesthetic choice and a practical necessity” (Axelrod 857).

Bishop never felt at home in Washington, working in her office *facing* the Capitol building, home to the United States Congress. Perhaps it was no accident that after her tenure at the library, Bishop wished to travel south to make a place she could call home. She moved to Brazil in 1951 where she “happened” to stay for almost two decades.<sup>10</sup> Reminiscing on her time in the capital of America, Bishop said: “I hated Washington. There were so many government buildings that looked like Moscow” (“Art” 131). The feeling of alienation—or of the absence of home—she experienced in Washington led her to align her country with the Soviet Union, the “other” in world politics. Bishop’s poems about Brazil in *Questions of Travel* (1965) complicate conventional ideas of domestication and foreignization by simultaneously exploring the paradoxical feelings of yearning for, and the absence

---

<sup>10</sup> Bishop explains in an interview, “I never meant to go to Brazil. I never meant [to do] any of these things. I am afraid in my life everything has just happened” (“Art” 128). However, her love affair with a Brazilian woman named Lota and with the country itself set Bishop on another course. Brazil became her home away from home, however perplexing, vexing, and enthralling the country might have been to the author.

of, home. The poems *question* the purpose of travel and the colonial desire to explore the unknown world and achieve mastery over primitive colonies.

The so-called Brazil poems, “Arrival at Santos,” “Brazil, January 1, 1502,” and “Questions of Travel,” situate a US Cold War narrator within the history of European colonialism. The motivation to travel is thus made into a questionable desire to penetrate that which is impenetrable while simultaneously containing the foreign world within the familiar images of American life. Eric J. Leed similarly notes that “Travel in general, and ‘exploration’ in particular, may be motivated not by love of the strange and unfamiliar but by the desire to reduce, by active and aggressive means, the uncertainty implicit in the strange and unfamiliar” (qtd. in Boschman 151). In her poems, Bishop makes her way through Brazil in search of “difference,” frequently readjusting perspectives presented earlier within the same poem or, at times, in other poems, as she navigates towards some sort of resolution.

As she sets foot in Brazil, in “Arrival at Santos,” she can hardly conceal her colonial impulse to (re)configure the foreign world: “Here is a coast; here is a harbor.” The strangely and “impractically shaped” scenery of the port is rendered “frivolous” and insignificant when readily subjugated to her imperial gaze. Thus, the (domesticated) trivial and banal landscape, which does not meet her colonial expectation about somewhat outlandish Brazil, propels her into the country’s interior: “We leave Santos at once; / we are driving to the interior” (CP 90).

Here is a coast; here is a harbor;  
 here, after a meager diet of horizon, is some scenery:  
 impractically shaped and—who knows?—self-pitying mountains,  
 sad and harsh beneath their frivolous greenery,

with a little church on top of one. And warehouses,  
 some of them painted a feeble pink, or blue,  
 and some tall, uncertain palms. Oh, tourist,  
 is this how this country is going to answer you

and your immodest demands for a different world [?] (CP 89)

The traveler is caught in an ironic desire for both mastery and difference (“a different world”). However, the jungle of “the interior” Brazil resists easy colonization, with its mysterious, elusive, and aberrant scenes. In “Questions of Travel,” the speaker is overwhelmed and discomfited by the alien landscape with

“too many waterfalls,” which provokes annoyance at the landscape. This is more than she can comprehend, and other than she has expected to see.

There are too many waterfalls here; the crowded streams  
hurry too rapidly down to the sea,  
and the pressure of so many clouds on the mountaintops  
makes them spill over the sides in soft slow-motion,  
turning to waterfalls under our very eyes.

.....

But if the streams and clouds keep travelling, travelling,  
the mountains look like the hulls of capsized ships,  
slime-hung and barnacled.

Think of the long trip home.  
Should we have stayed at home and thought of here?  
Where should we be today? (*CP* 93-94)

The ordering impulse of the imperial beholder, (re)configuring and thus domesticating the jarring scenes with familiar metaphors of sea and ships, loses its anchorage in the dizzying flux. The excessive “streams” and “clouds” would then make “the mountains look like the hulls of capsized ships.” The image of mountain-ships capsized and adrift at sea indicates the end of her colonial voyage, or the beginning of her backward travel (“Think of the long trip home”). This is Bishop’s recursive vision of a feedback circuit that dramatizes the countercultural subversion of the containment system of the Cold War. The dreadful flux in the heart of the jungle overthrows the means of travel and invokes the more comforting idea of stasis intimated by home (homeostasis): “Should we have stayed at home, / wherever that may be?” The question of travel, of whether we should ever travel, is countervailed by the question of home, of whether there is so-called “home” anywhere (“wherever that may be?”).

These questions about the nature of home and travel reflect the self-reflective feedback system, in which the beholder begins to see herself included within the system she is observing. As in cybernetics, “a fundamental criterion of ‘control’ must include awareness that the observer’s presence creates a bias [a goal/home] within the system as a whole” (Harries-Jones 119). Consequently, such a self-

reflective awareness leads the speaker to refuse the closed-loop feedback control in her colonial venture, and to instead seek an emergent goal (rather than a predesignated one), which she would call “home.” Certainly, Bishop’s travel necessarily involves such goal-directed behavior, but it aims at discovering an “object or place of desire located at a specific point in space and time, only to abandon it for yet another far-off goal” (Boschman 61). For Bishop, home is to be (re)defined each time she travels because it is not simply “there.” There never was and never will be a home in any stable sense. What is real is the journey in its own right. Reality, for Bishop, is like a “circus tent,” which she “set[s] up where [she is].” She says,

Reality . . . is something like a huge circus tent, folding, adjustable, which we carry around with us and set up wherever we are. It possesses the magical property of being able to take on characteristics of whatever place we are in, in fact it can become identical with it. (qtd. in Costello 129)

Bishop’s travel poems suggest that we all live somehow in a “home-made” home. In “Crusoe in England” (1976), Bishop’s Crusoe cries, “Home-made, home-made! But aren’t we all?” (*CP* 164). When Crusoe returns home to England, the country feels no more like “home” to him than the island upon which he had been marooned; he feels like more of an exile at home in England. Similarly, after Bishop returned from Brazil, the US felt like an alien place, “another island” (*CP* 166). Bishop has stated, “I’ve never felt particularly homeless, but then, I’ve never felt particularly at home.” It is rather “a poet’s sense of home. He carries it [home] within him” (“Geography” 102), so that the poet restores a sense of “home”-ostasis within himself. Bishop’s notion of “reality”—a reality that “[takes] on characteristics of whatever place we are in,” a reality that “can become identical with it”—reinforces the cybernetic point of self-organization that “the teleological [goal-directed] properties are observer/agent relative emergent properties, not externally defined objective properties of the system” (Bishop and Nasuto 1311).

## Conclusion

Bishop’s experiments with the mode of representation in poetry are crucial to understanding the cultural and political significance of cybernetics during the Cold War period. Cybernetic frameworks attune us to Elizabeth Bishop’s Cold War

poetics and her artistic strategies for communication in an increasingly technology-driven world, which then allows us to alter and shape our understanding of technology. Science and technology are deeply embedded in our culture, with all their ideological implications: they cannot just emerge in some kind of value-free environment. Bishop's poetry illuminates a cultural moment when cybernetic imagery or cybernetic modes of thinking occupied the social, political discourse and rhetoric of the time. This multi-layered relationship prompted through structural couplings between systems and their specific environments (e.g., natural, social, or technological) illuminates the embodied nature of our culture as suggested by the language of Bishop's poetry that mirrors the cultural dynamics of cybernetics during the Cold War.

This article has demonstrated that the poetry of Elizabeth Bishop is a self-reflective, symbiotic system coupled with complex social and cultural environments, including science and technology, all of which can be made to coincide in mirroring each other's dynamics within the field of composition. The cybernetic modes of thinking and writing exhibited in her poetry reflect the socio-cultural dynamics of her time deeply shaped by the technological assumptions of cybernetics science. Poetry does not merely reflect society from without; it comes to shape what existing social systems mean and what scientific and technological innovations signify in cultural contexts. Poetry is "in action, within itself" because "an idea separated from the act of experiencing it is not the idea that [is] experienced" (*One Art* 11-12). Bishop's notion of poetry as portraying "a mind thinking" suggests alternative ways of perceiving reality or an alternative reality of perception, questioning the very language we use to represent and the very mode of the representations we make with language.

### Works Cited

- Axelrod, Steven Gould. "Elizabeth Bishop and Containment Policy." *American Literature*, vol. 75, no. 4, Dec. 2003, pp. 843-67.
- Bateson, Gregory. *Mind and Nature: A Necessary Unity*. E. P. Dutton, 1979.
- Bateson, Gregory, and Margaret Mead. Interview by Stewart Brand. "For God's Sake, Margaret: Conversation with Gregory Bateson and Margaret Mead." *CoEvolution Quarterly*, vol. 10, no. 21, 1976, pp. 32-44.
- Belgrad, Daniel. "Democracy, Decentralization, and Feedback." *American Literature and Culture in an Age of Cold War: A Critical Reassessment*, edited by Steven Belletto and Daniel Grausam, U of Iowa P, 2012, pp. 59-82.

- Bishop, Elizabeth. Interview by Elizabeth Spires. "The Art of Poetry XXVII: Elizabeth Bishop." *Conversations with Elizabeth Bishop*, edited by George Monteiro, UP of Mississippi, 1996, pp. 114-32. [First published in *The Paris Review*, vol. 80, Summer 1981, pp. 56-83.]
- . *The Complete Poems: 1927-1979*. Farrar, Straus and Giroux, 1983. [Abbreviated as *CP*.]
- . Interview by Alexandra Johnson. "Geography of the Imagination." *Conversations with Elizabeth Bishop*, edited by George Monteiro, UP of Mississippi, 1996, pp. 98-104. [First published in *Christian Science Monitor*, 23 Mar. 1978, pp. 20-21.]
- . *One Art: Letters*. Selected and edited by Robert Giroux, Farrar, Straus and Giroux, 1995.
- Bishop, J. M. and J. S. Nasuto. "Second-Order Cybernetics and Enactive Perception." *Kybernetes*, vol. 34, no. 9/10, 2005, pp. 1309-20.
- Boschman, Robert. *In the Way of Nature: Ecology and Westward Expansion in the Poetry of Anne Bradstreet, Elizabeth Bishop and Amy Clampitt*. McFarland & Co., 2009.
- Bousquet, Antoine. "Cyberneticizing the American War Machine: Science and Computers in the Cold War." *Cold War History*, vol. 8, no. 1, 2008, pp. 77-102.
- Brand, Stewart. "Outlaws, Musicians, Lovers, and Spies: The Future of Control." *Whole Earth Review*, Summer 1990, pp. 130-35.
- Clarke, Bruce. *Neocybernetics and Narrative*. U of Minnesota P, 2014.
- . *Posthuman Metamorphosis: Narrative and Systems*. Fordham UP, 2008.
- Costello, Bonnie. *Elizabeth Bishop: Questions of Mastery*. Harvard UP, 1993.
- De Hart, Jane Sherron. "Containment at Home: Gender, Sexuality, and National Identity in Cold War America." *Rethinking Cold War Culture*, edited by Peter J. Kuznick and James Gilbert, Smithsonian Books, 2001, pp. 124-55.
- Edwards, Paul N. *In the Closed Word: Computers and the Politics of Discourse in Cold War America*. MIT P, 1996.
- Freud, Sigmund. *The Uncanny*. Translated by David McLintock, Penguin Books, 2003.
- Gust, Helmar, et al. "Analogical Reasoning: A Core of Cognition." *KI—Zeitschrift für Künstliche Intelligenz*, vol. 1, no. 8, 2008, pp. 8-12.
- Harries-Jones, Peter. *A Recursive Vision: Ecological Understanding and Gregory Bateson*. U of Toronto P, 1995.

- Hatlen, Burton. "Kinesis and Meaning: Charles Olson's 'The Kingfishers' and the Critics." *Contemporary Literature*, vol. 30, no. 4, Winter 1989, pp. 546-72.
- Heylighen, Francis, and Cliff Joslyn. "Cybernetics and Second-Order Cybernetics." *Encyclopedia of Physical Science and Technology*, edited by Robert A. Meyers, 3rd ed., Academic P, 2001, pp. 155-69.
- Markoff, John. *What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry*. Penguin Books, 2005.
- Maturana, Humberto R., and Francisco J. Varela. *Autopoiesis and Cognition: The Realization of the Living*. D. Reidel Publishing, 1980.
- Olson, Charles. *Selected Writings*. Edited by Robert Creeley, New Directions, 1966.
- Roman, Camille. *Elizabeth Bishop's World War II-Cold War View*. Palgrave Macmillan, 2001.
- Roszak, Theodore. *The Making of a Counter Culture: Reflections on the Technocratic Society and Its Youthful Opposition*. Doubleday, 1969.
- Turner, Fred. *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*. U of Chicago P, 2008.
- Vendler, Helen. "Domestication, Domesticity, and the Otherworldly." *Elizabeth Bishop and Her Art*, edited by Lloyd Schwartz and Sybil P. Estess, U of Michigan P, 1983, pp. 32-48.
- Von Foerster, Heinz. *Understanding Understanding: Essays on Cybernetics and Cognition*. Springer, 2003.
- Wiener, Norbert. *Cybernetics: Or Control and Communication in the Animal and the Machine*. MIT P, 1948.
- *The Human Use of Human Beings: Cybernetics and Society*. Revised ed., Eyre & Spottiswoode, 1954.

### About the Author

Gi Taek Ryoo is Professor of English at Chungbuk National University, Korea. He received a PhD in English from the State University of New York at Binghamton. He has published a number of articles on poetry and science, including "Wallace Stevens: Chaos, Complexity, and System of Self-Reference" and "Quantum Creativity: Robert Creeley and Self-Reflective Wholeness." He is particularly interested in the parallel development of poetry and science in the twentieth century.

[Received 30 June 2018; accepted 7 December 2018]