This Secret Charm of Numbers: The Clandestine Relationship between Shortwave Number Stations and Twentieth-Century Poetry

Geoffrey Hlibchuk

Mystery exists only in precise things.
Jean Cocteau

The Muses count.
Jack Spicer

Turn your radio to the microwave bands and listen there.
Christopher Dewdney

4.1.2008

Dead Voices on Air

There is a strange transmission currently broadcasting from 8,097 kHz of the shortwave band. A lifeless, mechanical voice emerges from the static and begins droning out a list of seemingly random numbers in Spanish. The rhythmic regularity and invariance in her pitch give the voice an eerie, almost otherworldly, quality. She reads a string of five numbers, pauses, then another five, pauses, and then continues reading in this fashion for forty some minutes. Then, ending with "final, final, final," the female voice dissolves into crackling waves of static. But later, she will re-emerge on a different part of the band. She has been broadcasting in this manner, up to

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eighteen hours a day, for forty-odd years. No one knows who she is, where she transmits from, nor what her numbers are for (to listen to a sample of one of these transmissions, click on "Atención," CD track 44[1]).

Geoffrey Hlibchuk lives in Toronto, where he currently works for Ontario's Ministry of Education. His first collection of poetry, *Variations on Hölderlin*, recently won the Robert Kroetsch Award for Innovative Poetry. His article is excerpted from a larger study that examines the irrational underside of communication technology and its relationship to poetry.

9.12.1921

The Birth of Shortwave Radio

In the shadow of today's sophisticated internet technologies, shortwave radio might have a quaint air of obsolescence. But despite the ubiquity of cell phones, Wi-Fi, et al., the medium is active. A single sweep through the dial reveals a wide variety of transmissions: fire-and-brimstone evangelical preachers, tepid calypso music, a vast spectrum of foreign languages, and less readily identifiable audio events. Idiosyncratic as this variety may be, there is a stranger side to the shortwave band. Shortwave radio is an utterly bizarre world; its wavelengths are too short to be properly monitored and controlled by any government agency, and its low fidelity makes it of little use to commercial broadcasters. Hence, it proliferates with pirates, politically clandestine and propagandist broadcasters, and numerous other unsavoury users. What is more, the propagation of shortwave is notoriously unstable. Under some conditions, the waves are unable to travel any great lengths. But when they travel far, they do so by bouncing off Earth's ionosphere and refracting down to a receiver, often traversing thousands of miles. This makes the transmitter virtually impossible to locate by normal methods of triangulation. Adding to shortwave radio's mystique is its nocturnal clarity; due to solar interference, listening at night often leads to the clearest reception. In particular, cloudless winter nights give the most optimal conditions. Given these circumstances, perhaps it is not surprising that so many unidentifiable aural ghosts glide through these airwaves.

This spectral substrate of radio was well-known by its inventors even prior to the advent of shortwave. Guglielmo Marconi, for instance, believed that his early antennas were pulling in the voices of ghosts somewhere from outer space. Nikola Tesla similarly thought that his early radio receiver was picking up communications from distant alien life forms on Mars and Venus. Indeed, the radio itself was born of the nineteenth century's fixation with spiritualism; both Marconi and Thomas Edison

1 The number station samples featured in this paper are taken from both Simon Mason's comprehensive website, "Shortwave Espionage" (www.simonmason.karoo.net/page30.html), and Irdial Discs *The Conet Project*, a well-known four-CD anthology of the stations (available online at http://irdial.hyperreal.org/).

pursued the idea that radio, with some modifications, could hear the dead speak (Banks 77).

Similarly, artists have imagined tuning into ghostly frequencies on the radio dial; Velimir Khlebnikov, referring to radio-wave propagation as "a spider web of lines in the air," felt radio was a "great sorcerer and ensorceler" of the world (Khlebnikov 32), and F.T. Marinetti and Pino Masnata's "La Radia" manifesto called for a "reception and amplification of vibrations emitted by living beings … or dead spirits" (Marinetti 267). These and other supernatural descriptions attest to something like a schizophrenic economy inherent within radio. As Marshall McLuhan later wrote, radio is a sort of "tribal magic" (McLuhan 324), a device capable of mystically entrancing its listeners far and wide and propagating voices deep into the vacuum of space. If, following McLuhan, "radio is the extension of the central nervous system," even "more than telephone or telegraph" (330), then the nerves it extends may be viewed as "schizophrenic" wires that reach distances beyond reason. R. Murray Schafer suggests as much when he states that radio has perpetually existed or, at least, "whenever there were invisible voices" (Schafer 292). It would then make sense that radio would be such a common source of voice delusions for paranoid schizophrenics.

The irrational feel of radio is most palpable on the shortwave dial, far away from the commercialism and bland predictability of the FM and AM bands. Digging deeper, one can find further secrets "in between the bands" of shortwave, usually in the single sideband range that common shortwave radios are unable to pick up. Here, secreted away from the regular shortwave bands, a phenomenon known as number stations are regularly broadcast.

4.1.2008

Number Stations

There are reportedly over fifty number stations currently broadcasting in a variety of languages. Though different stations are heard in different areas of the world, most number stations stick to a common format and are readily identifiable: a voice, usually female, reads numbers at regular intervals, usually five at a time with a small pause in between (a generic example can be heard on "Five dashes," CD track 45). Although reports suggest that the numbers were once read live, it is evident that most of them are now automated. And while a majority of the stations repeat the same format, there are notable exceptions. They include letter stations (using

the NATO alphabet, that is, "Delta, Echo, X-ray"), Morse-code stations and tone stations, to name some of the more well-known deviations. These broadcasts are vigilantly tracked by such organizations as the ENIGMA group, whose members have done a great deal to classify and document number stations over the years, though much of the stations' operations still remain shrouded in mystery.[2]

In sum, number station broadcasts likely can be heard in every country of the world, and usually a single careful sweep of the utility bands will unearth one. No one person or agency to this day has claimed responsibility for these transmissions. Nor does anyone really know why they exist or how long they'll last. We don't even know exactly when they started, although some reports reach as far back as the days of World War I.

14.7.1916

A Poetry of Numbers

As if by coincidence, at the same time these stations began to crackle through the early days of radio, numbers were gaining unprecedented aesthetic attention in the avant-garde. This is especially evident in the work of the Dadaists. Both phenomena share a common background; it is conjectured that number stations formed part of the logistical processes of World War I military operations. The Dadaists' Cabaret Voltaire also took place in this context. Conceived as an attempt to satirize the irrationality of the war, Dadaism heralded the nonsensical and used it as a basis for aesthetics. Perhaps the most well-known Dadaist gestures involved a recipe by Tristan Tzara for making a poem: merely cut out words from a newspaper, mix them up in a hat, and reassemble. The randomness of the act operated contrary to poetic sensibilities that suppressed chance in favour of an intentional subject in control of his or her language. This was precisely what the Dadaists were trying to disintegrate: the idea of the artist as an elite specialist placed atop the social hierarchy. In a world turned upside down by the irrationality of the war, some vanguard artists, the Dadaists among them, undertook the task to make the production of art accessible to everyone. Hence, rather than being drawn to determinate forms—sonnets, odes, lyrics, etc.—the Dadaists were drawn to indeterminate forms, ones that anyone could produce with seemingly minimal effort: sound poetry, abstract visual art, music, and, interestingly, a poetry of numbers.

2 ENIGMA newsletters are currently archived at http://home.luna.nl/~ary/.

While the purpose of number stations is still conjectural, the use of numbers by the Dadaists is less so. They implemented numbers for the aesthetic purposes of inducing effects of randomness, not unlike Tzara's mixing up words in a hat. The bold front cover of the German Dadaists' *Der Dada*, for instance, appears randomly littered with numbers (see figure 1). Similarly, Kurt Schwitters's *Merz* journal often arbitrarily introduces numbers into its typographically daring poetry. Schwitters himself was a proponent of "number poetry," as in the following example:

Usually conveying precision and exactitude alone, numbers convey, for the Dadaist, the opposite as well.

```
                Seven
                        Eight
                        Eight
                        Eight
One   two
                        Four
      Six
                        Eight
. . . . . . . . . . . . . . . . . . . . .
1
      2
            3
                  4
5
      6
            7
            8   (Schwitters 42)[3]
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The use of numbers is an anti-art gesture for the Dadaists, and one that flies in the face of the belief that numbers are exclusively the cold tools of mathematical reason.

The Dadaists discovered a *poetic* status of numbers. Usually conveying precision and exactitude alone, numbers convey, for the Dadaist, the opposite as well: randomness, perplexity, the residually sublime. Cocteau, closely aligned with Dadaism at one point, was undoubtedly right when he claimed that "mystery exists only in precise things."[4] This paradox echoes through every artistic treatment of numbers, where the transitive exactness of numbers disintegrates into an intransitively enigmatic shade. If

3 This is not to propose that numbers were never before prominent in poetry, only that in the early avant-garde their use became less transitive.

4 Quoted in Hammond, "Mysteries," 27.

contemporary literature approaches, to use Perloff's phrase, a "poetry of indeterminacy" (4), then here, in the pages of the Dadaist magazines, we find such a poetics in its most extreme form. For if contemporary poetry is typified by its indeterminacy, then the intransitive number may be the most avowedly modern form of literature.

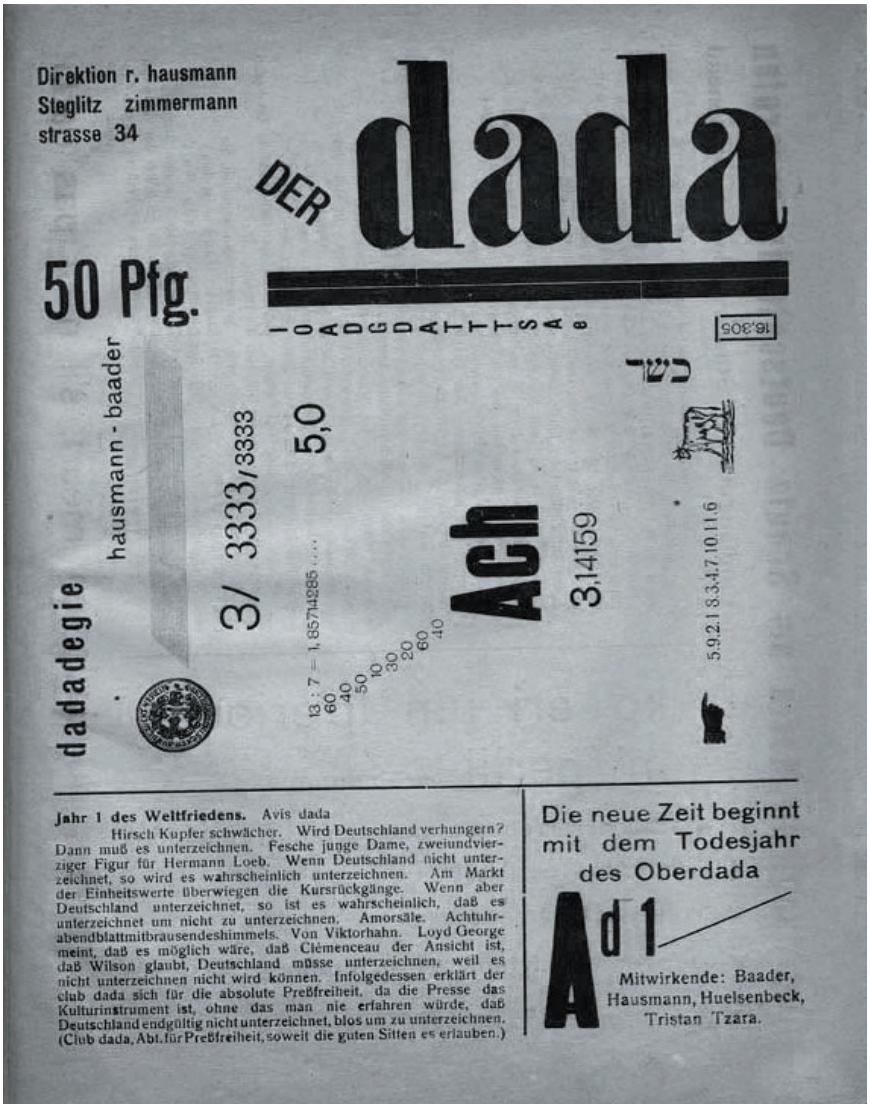

Figure 1 Numbers encroaching upon modernity. The first cover of *Der Dada*.

12.3.1947

Hot Numbers / Cold Wars

Number stations began to proliferate with the advent of the Cold War. Suddenly, radio listeners from all over the world became aware of these strange broadcasts, and legends began to appear in an attempt to explain their existence. One such theory proposed that the stations are part of a co-ordinated artistic project, a sort of world-wide Dadaist prank. Another proposed that the stations are a communications network for trafficking drug cartels. The problem with such theories is that the stations broadcast in high-powered, predictable transmissions (to at least the 400,000 watt level). Neither artistic collectives nor drug cartels could conceivably transmit such reliable and predictable transmissions for so many years; the high-powered nature of the stations is such that they would need to be produced by geographically-fixed and financially exorbitant towers, presumably out of the economic reach of artists and too stable for the vicissitudes of the drug trade.

The most popular theory that accounts for the stations considers them produced by government agencies in order to communicate with spies in the field. Since telephone and internet use are easily traceable, shortwave provides an effectively clandestine cover for communication; in this sense, old technology can still outpace the new. Shortwave radio would allow an agency to send messages to operatives at great distances who have minimal equipment. A spy would only need an inconspicuous radio and some form of encryption to decode the numbers (a decryption key, known as a one-time pad, could decipher the messages safely and quickly, provided that no key is used twice). That government agencies are behind these stations is corroborated by the curious fact that listening to them is illegal in certain countries. And though one might assume that the proliferation of such spy stations would decline after the end of the Cold War, data suggests that these stations are only increasing in number.

As number stations proliferate, their forms become more complex. Some no longer just read numbers, and many programming formats have become far more idiosyncratic. Many number stations began to use markers at the beginning of their transmissions, usually consisting of a few bars of music, presumably to better locate or tune to the station from afar. Such flourishes do little to lessen the eerie substrate of the stations. The cheerful music, coupled with listless voices, is decidedly ominous, as evident in the station known as "Swedish Rhapsody" (see CD track 46),

notorious for its use of a girl's voice to read the numbers (and perhaps the most subtly disconcerting audio ever put to air).

Inherent in such stations is a sublimity par excellence: their repetitious intonations sound downright alien. We don't know what the messages are for (if the numbers are messages), who they're directed to, or where they're coming from. The only thing we can say is that these stations pulse and scatter through our highways, towns, and bedrooms every night.

29.9.1950

Cocteau's *Orphée*

In 1950, Jean Cocteau released his film *Orphée*, updating the myth of Orpheus and Eurydice to modern-day Paris. Wasting his days at a literary café, the character of Orpheus is a renowned, albeit creatively spent, poet, a bourgeois figure riding on the coattails of his own outdated reputation and stagnating in a banal marriage with Eurydice. One day, however, he witnesses the death of a young rival poet named Cégeste, who is violently run over by a motorcycle gang outside the café. The Princess, an austere figure dressed in black who accompanies Cégeste, orders the body to be whisked into her Rolls Royce and invites Orpheus along for the ride, ostensibly as a witness to the murder. The ride ends at the Princess's villa, where Cégeste is resurrected from the dead and Orpheus watches as he and the Princess disappear through a mirror together. Orpheus then falls into a hallucinatory reverie after which he is driven home in the Rolls by the chauffeur Heurtebise. Once home he tries to relax, but the experience—apparently a brush with the underworld—has left him shaken.

Soon after, Orpheus becomes obsessed by a station he picks up on the car radio of the Rolls, now kept in his garage. "Where could they be coming from, Heurtebise?," Orpheus wonders, staring at the dial, "They're on no other station." The station consists of seemingly random numbers listed off by the (literally) dead, apparitional voice of Cégeste. The numbers have little meaning let alone aesthetic potential to those around him ("It makes no sense," Eurydice complains), but for Orpheus, the station's numbers are the epitome of poetry; they are "much more than any of my poems," he notes, not without lamentation. Despite his ambivalent attitude toward his own poetry, Orpheus remains exultant about the number station: "I'm certain they're meant for me," he proclaims. The numbers continue to pour into the car, punctuated by a terse French "Attention."[5] Eurydice tries to get his mind back to more practical matters, stating that

the station "won't feed our child." Orpheus, however, is hooked on it: "I'm on the trail of the unknown."

15.6.1960

The Heads of the Town Tuned Up to the Aether

This short scene, from an art film seen in few North American theatres, surreptitiously influenced North American poetry in unfathomable ways. It would eventually cast a spell on Jack Spicer, who was clearly fascinated by the aesthetic ramifications of the scene. This influence is most evident in his 1960 book *The Heads of the Town Up to the Aether*, specifically in the section "Homage to Creeley," also dedicated in part to both the Princess and Cégeste (Spicer typically aligns himself with the film's undead characters). The influence of Cocteau's film is palpable across Spicer's entire oeuvre and especially in his theoretical treatment of poetic dictation, a theory that has continued to exert a charismatic power over subsequent writers.

Spicer essentially uses *Orphée*'s model of radio dictation to nullify the role of intentional subjectivity in his poetics. A subjective interiority is no longer in control of poetic expression; instead, the act of writing poetry issues from "something from the Outside coming in" (Spicer 5). Poetic creation is akin to Orpheus's act of writing down the messages from some unidentifiable number station on the radio. Spicer's dictation theory of poetry holds that the poet is like a radio receiver, passively pulling in signals from the Outside: "[Y]ou are something being transmitted into" (7). This Outside is a fundamentally unknowable zone; like a number station, it perpetually transmits without ever revealing itself. Only the effect on the listener can be measured: like Orpheus, the poet becomes obsessed with the Outside, fervently attempting to decode the messages by transcribing them into poetic forms. As Orpheus exclaims while listening to the numbers, "What fascinating poetry!"

The Outside, according to Spicer, communicates in an unusual fashion. It has no language to speak of but instead manipulates the language of the listener. In radio terms, the signal generated by the transmitter is not a language until the receiver detects or demodulates the radio sine wave and converts it into a comprehensible audio message. Hence, it is understand-

5 The phrase, so reminiscent of the "Atención" station heard above, is something of a common feature for some number stations, drawing in the unknown receiver to the correct frequency and preparing him or her for the numerical transmission about to begin.

Here, within the tension between word and number, we may find the substratum that Spicer found so disturbing.

able why *Orphée*'s radio would hold such a spell over Spicer. Speaking in numbers, the car radio communicates in an abstract manner, far removed from any egotistically driven words. Numbers, we should remember, are inherently abstract entities; they lack determination more than any other figures of language. Having little meaning in and of themselves, numbers are instead most often used to manipulate and control information beyond themselves. The number, as an abstract form, is perhaps more attuned to the Outside than any word; this may be why the afterworld speaks in numbers.

The spell that the *Orphée* scene cast on Spicer is attested to by the ghostly influence of numbers in the *Orphée*-inflected "Homage to Creeley." Here, as it was in some Dadaist poetry, letters are given equal aesthetic billing with numbers: "[H]e could not imagine what letters were for, or numbers" (151). Consider the opening stanzas of a poem entitled "Magic":

> Strange, I had words for dinner
> Stranger, I had words for dinner
> Stranger, strange, do you believe me?
>
> Honestly, I had your heart for supper
> Honesty has had your heart for supper
> Honesty honestly are your pain
>
> I burned the bones of it
> And the letters of it
> And the numbers of it
> That go 1, 2, 3, 4, 5, 6, 7
> And so far. (Spicer 132)

The poem deserves notice here, especially since Lewis Ellingham and Kevin Killian's biography of Spicer mentions that he considered "Magic" to be his "most frightening" poem (Ellingham 189). A curious assertion, if only because "Homage" features more obvious examples of frightening imagery than the imagery in this poem. Why did Spicer single this poem out as most disturbing?

Perhaps Spicer was unsettled by the appearance in "Magic" of numbers. They constitute the dramatic epicentre, breaking through patterns established in previous lines. Here, within the tension between word and number, we may find the substratum that Spicer found so disturbing. The first stanza of "Magic" imagines words as consumable, whereas in the third, letters and finally numbers are treated as inconsumable bones. Despite the

fact that both letters and numbers compose the poem, the latter almost seems to break off from the former, ending the discursive flow by counting, presumably off into infinity.

The difference is mediated by a stanza on the edible heart. Words and the heart are both consumable perhaps due to the natural association between language and emotion; both are readily easy to figuratively digest. The subject of the poem hence acts something like a reader of the poetry Spicer bristled against, consuming language but casting aside its material infrastructure. The unusable leftovers of language, not able to coalesce into words, are bones whose evidence is destroyed in order to surreptitiously hide the act of linguistic and emotional cannibalism. The numbers and letters, having nothing to do with the "heart," are discarded as useless. But notably, they have a certain degree of indeterminacy, especially given that they are treated in such a vague way ("so far"). Numbers and letters, morbidly associated with bones, attain a palpably disconcerting resonance, not unlike the numbers broadcasting through *Orphée*'s car radio (it is interesting to note that some number stations currently broadcast in letter form; in this case, letters without words approach the indeterminacy of numerals). It is only after they are burnt that the poem's letters and numbers are consumed, as evident in the poem's last stanza:

> Stranger, I had bones for dinner
> Stranger, I had bones for dinner
> Stranger, stranger, strange, did you believe me?

As a common symbol for regeneration, the fire in the poem transubstantiates the letters and words into a different form, that of a consumable product. But the explanatory note to the poem puts further emphasis on the importance of numbers by complicating their consumption:[6] "Honesty does not occur again in the poem. / The numbers do." Words, the consumable emotions of communication, end in the guise of a humanistic honesty, while numbers, too indeterminate to be contained by anyone, live on.

Spicer, then, uses *Orphée*'s number station and transforms it into a poetic "practice of the Outside." The radio call of the Outside, lacking a determinate language, transmits in the indefinite mode of numbers. As the most abstract components of language, Spicer appears to hold them in special regard. "The Muses Count," says the title of one of the poems in *The Heads of the Town*, and before we assign to the word "count" the meaning

6 All poems in "Homage to Creeley" are accompanied by explanatory notes at the bottom of the page, although they provide little in the way of proper exegesis.

of "importance," we need to consider the poem's last line: "There is left a universe of letters and numbers and what I have told you" (Spicer 159). The muse, the call from beyond, speaks to poets in numbers; it *counts*.

This is a fact known by Rimbaud in *The Heads of the Town*'s fictional rendition of his life (which immediately follows "Homage"): "That I am fifteen God only knows / I keep the numbers in my head / When I am dead" (153). Rimbaud's gift is that he's open to the mystery of numbers, receiving them like a radio set capturing transmissions from beyond the horizon. "When I am twenty I will see / Eternity / And all those old numbers" (ibid.). Eternity, the indefinite par excellence ("and so far," as before), is associated by Spicer with numbers; both are conflated in the mind of Rimbaud, the extreme outsider poet. The muses do count: the only trick is how to tune in their numbers.

Given this interest in numbers and their supernatural connotations, perhaps it is not surprising that the subject of Spicer's last (unrealized) poetic project involved Pythagoras, the ancient Greek philosopher of sacred numbers.

4.1.2008

Conclusion: Radio Poetics / Remote Control

Spicer's theory of the Outside had an enormous impact on subsequent poets long after his premature death in 1965. Spicer's lectures in Vancouver in the year of his death ensured that his work would resonate for an entire generation of Canadian poets. In particular, Christopher Dewdney's "Parasite Maintenance" essay is in large part an extension of Spicer's theme. Dewdney proposes that poetry is the result of a struggle between a "Governor," a force that enforces the "limits of [linguistic] conceptualization" with the handcuffs of grammar and habit (Dewdney, *Alter Sublime* 79), and a parasite which eludes this force and gives the poet access to the Outside. In Dewdney's analogy, the poet is like a radio receiver; the Governor is a force that delimits the range of the poet's reception, but the parasite can skirt these limitations and draw in aberrant transmissions from afar. The poem is a result of a deviant transmission.

This is given poetic dramatization in Dewdney's concept of "remote control," a form of mind control "discovered by / a Japanese secret society near the end / of the second world war" (*Fovea Centralis* 27). Essentially emissaries of the outside, remote control agents are harbingers of "an equation for a pure random" (33) and attempt to disrupt the surety of the ego in others. The agent is fully adept in the "language of remote control"

(85): a "subliminal code" (83) that remains known only to the other agents who use it. Using such a "coded presence" or "intangible song" embedded in their minds (85), these agents go out into the world and invade the minds of others. They introduce a series of lies and distortions to the point of invoking a sort of paranoid schizophrenia among the populace unfortunate enough to fall under their sway. In a way, Dewdney's remote control agents are essentially spies in the field, using a random code reminiscent of the number station model (making explicit the schizophrenic substratum of radio). Hence, this poetic work is something of an outcrop of the stations, mediated through the work of both Cocteau and Spicer. In Dewdney's hands, these spies in the field are posited as disruptions of the status quo, which harkens back to both the Dadaists' and Spicer's tactics of invoking numbers in order to counter the prevailing emphasis on Cartesian subjectivity. Numbers, in their radical intransitivity, are somehow able to haunt the stability of the ego.

Like a faint echo transmitting itself throughout literary history, number stations, however quiet, can be heard in a spectrum of poetry too wide to document here.[7] From the early Dadaist experiments in numbers, through Cocteau's *Orphée* and Spicer's recasting of it, and beyond, the stations can be picked up by those attuned enough to listen. This is not to suggest, however, that all poets are aware of their existence. But often, a secret can be so clandestine that some who keep it are, in fact, largely unaware of it.

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Works Cited

Audio tracks cited in this article are available on the compact disc accompaning the print version of this special issue. Some of the audio tracks cited in this article may also be available at www.arts.ualberta.ca/~esc under the "Extras" tab.

7 In brief passing, let me mention two of Spicer's disciples and their number-based poetry: Lyn Hejinian's *My Life* (originally composed in thirty-seven sections of thirty-seven sentences) and Ron Silliman's Fibonacci-derived *Tjanting*.

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