

Tic-Xenotation as a Solution to Problems of Context: Barker, Derrida, and ETI⁰

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Part I: Barker and Derrida

In 1971, a young Daniel Charles Barker attended a lecture before the *Congrès international des Sociétés de philosophie de langue française*. The speaker? None other than Jacques Derrida. In his ‘communication’ titled “Signature, Event, Context,” Derrida expanded upon J.L. Austin’s speech-act theory while giving it a spin all his own.

For Derrida, communication did not simply mean “the transmission of meaning” as traditionally understood; rather, a broad range of extra factors must be considered. Indeed, Derrida posited that communication was a far broader category than one that only allowed for a purely linguistic standpoint, as communication “also designates nonsemantic movements.”¹ To

make sense of these extra, nonsemantic movements within a communicative activity, however, one needs to take into account the *context* in which they occur; a colloquium, the tone of a room, the look on a person’s face as they shrug, etc. The “implicit but structurally vague consensus” understood by members of a community constitutes context, for Derrida.² Despite seeming straight forward, however, there is always more at play, and thus context always contains a level of ambiguity. Indeed, as Derrida notes, “context is never absolutely determinable [...] its determination is never certain or saturated.”³ Indeed, in a more extended discussion of context as it relates to performative acts—a topic too broad

0: This essay first appeared on the original MVU Press website.

1: Jacques Derrida, “Signature, Event, Context,” in *Margins of Philosophy*, trans., Alan Bass, 307–330 (Chicago, IL: University of Chicago Press, 1984), 309.

2: Derrida, “Signature, Event, Context,” 310.

3: *Ibid.*

to cover here and something that, when considering extraterrestrials, becomes significantly more convoluted—Derrida argues that context also involves the “conscious intention” of the actor; what they mean, how they mean it, what reaction they hope to elicit, etc. These features, however, are necessarily elusive as one does not have access to the inner thoughts of the Other. Given that, context cannot be “exhaustively determinable” since the active thought process of the Other eludes us.⁴

Furthermore, and we will return more explicitly to the problem of context shortly, Derrida makes additional notes on writing as such. Briefly, writing is not only a “*means of communication*,” but it is a means of communication that acts upon a homogeneous medium. While “the content of the semantic message” is transmitted by increasingly “more powerful mediations, over a much greater distance,” it still fundamentally operates within a specific realm, and thus requires the same faculties to code and decode. This homogene-

ous medium—what we can think of as the symbolic—is independent of the content of the message—and indeed, is independent of the medium of transmission as well—and thus operates on a more abstract level.⁵

Specifically, this ability to operate in a transcendent medium—a medium of external linguistic codification—also makes writing a fundamentally absent act. As Derrida notes, one of the defining features of writing “is the absence of the addressee,” “[o]ne writes in order to communicate something to those who are absent.”⁶ Expanding upon this, Derrida argues that the sign manifested as writing exceeds the sender just as much as it exceeds the addressee. A written sign operates not only on the homogeneous plane of the symbolic, but it utilizes an external code that allows it to take on a life of its own. As “[i]t must be repeatable – iterable” as it circulates through the world, it becomes a productive machine that doesn’t need a subject.⁷ “For the written to be the written, it must continue to ‘act’ and to

4: Ibid., 327. Karen Barad problematizes this entire dichotomy of self/Other in *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007) but I will not be taking up her provocations here.

5: Derrida, “Signature, Event, Context,” 311.

6: Ibid., 313.

7: Ibid., 315.

be legible even if what is called the author of the writing no longer answers for what he has written.”⁸ Not only must the message be external to the writer making it “a communicable, transmittable, decipherable grid that is iterable for a third party, and thus for any possible user in general,” but implied within this framework is that the code exceeds the codifier as such.⁹ Even in the event of the total destruction of humanity, our linguistic systems will still exist. Information was encoded using a system, and just because the coders are gone, the code itself remains unaffected. This, for Derrida, “implies that there is no code [...] that is structurally secret.”¹⁰

Crucially, what this externality allows for is the breaking of original context. Indeed, as Derrida notes, “a written sign carries with it a force of breaking with its context, that is, the set of presence which organize the moment of its inscription.”¹¹ The original intentions, goals, etc. of the initial author become irrelevant as the code circulates on its own. The con-

text in which a given sentence was written becomes irrelevant (and indeed, unknowable) as the author disappears and the message enters a broader linguistic community. As Barthes notes, “a text is made of multiple writings, drawn from many cultures and entering into mutual relations of dialogue, parody, [and] contestation” with its unity lying in “its destination,” its larger milieu.¹²

This seems to provide hope for messaging extraterrestrials as if it’s true that the context in which a message was originally written is not only irrelevant, but disappears with time, then we might reasonably assume that any message we send will still have semantic value independent of human interpreters. Indeed, a message the likes of which goes “hello, we are here!” certainly is laced with initial context—that is to say, intentionality, implicit goals, etc.—but if Derrida is to be believed, such context dies off with the authors and the message retains meaning by reference to its own relationship to the code it is transmitted in.

8: *Ibid.*, 316.

9: *Ibid.*, 315.

10: *Ibid.*

11: *Ibid.*, 317.

12: Roland Barthes, “The Death of the Author,” in *Image-Music-Text*, trans., Stephen Heath, 142–148 (London, UK: Fontana Press, 1977), 148.

Unfortunately, Barker was convinced that Derrida was wrong. Derrida's understanding of context is at once incredibly thorough but not abstract enough. While context certainly does include the "implicit but structurally vague consensus" of a community of beings and must also include the "conscious intention[s]" of those being, context is much more.¹³ Context not only involves the actors, their mental attitudes, and so on, but it also involves the society at large. Unspoken power structures are at play when considering context.¹⁴ Indeed, the simple utterance of "hello" carries with it cultural significance beyond what the actors intend. While A meeting B may say "hello" in passing with the intention of purely acknowledging each other's existence, if A and B live in a polite society, the utterance of "hello" acts as a conversation starter that may portend the elicitation of further pleasantries.

And this is a banal and mundane example. Certain phrases only make sense in the context of specific cultures and will, if uttered amongst others, leave them baffled.¹⁵

And these are all among humans. And culture. If one is to believe contemporary linguistic theory, there is an even more abstract context that is implicit in all human language *but might not be implicit in language as such*. Indeed, if we take Chomsky's understanding of universal grammar seriously, then there is a specific structure to natural languages as such that creates a hierarchy. While authorial, cultural, or other context may disappear, the structuring of messages according to the principles of universal grammar—something we likely cannot get out of—is a context in and of itself that poses a problem for extraterrestrial messaging. Not only does it seem to be the case that "the same structures that make

13: Derrida, "Signature, Event, Context," 310, 327.

14: For a more thorough account of linguistic power structures than can be provided here, see Michel Foucault, "What is an Author?" in *Aesthetics, Method, and Epistemology: Essential Works of Foucault 1954–1984* (Volume Two), trans., Josué V. Harari, ed., James D. Faubion, 205–222 (New York: The New Press, 1998).

15: We can also, via the work of H.P. Grice, see how 'culture' can be even more narrowly defined as the milieu between a group of individuals who all know the same thing. In this sense, communication becomes even more difficult. See H. P. Grice, "Logic and Conversation," in *The Philosophy of Language*, ed., A. P. Martinich and David Sosa, 312–322 (Oxford, UK: Oxford University Press, 2012).

it possible to learn a human language make it impossible for us to learn a language that violates the principles of universal grammar,” but the inverse is likely true as well. An extra-terrestrial with a different set of linguistic constraints would likely be befuddled by a message organized according to our hierarchy of language. As noted, were we to receive a message that violated the principles of universal grammar, “we would have

to ‘approach the alien’s language slowly and laboriously – the way that scientists study physics, where it takes generation after generation of labor to gain new understanding and to make significant progress.’”¹⁶ As with the above, the inverse is likely true as well making the use of natural language highly problematic for any messaging.¹⁷ A different programme is needed.

Part 2: Tic-Xenotation and Project Scar

As enigmatic MIT researcher turned Professor of Anorganic Semiotics at Miskatonic Virtual University, Dr. Daniel Charles Barker, began publishing on systems and noise theory in the late 1970s and early 1980s, his work was noticed by “a NASA-related organization that

[had] particular interests connected to SETI activity.”¹⁸ Following John Lilly’s work with ‘dolphinsese,’ it became abundantly clear that communication between lifeforms that shared similar environmental pressures and are, by all accounts, highly intelligent is fundamentally problematic as each

16: Daniel Oberhaus, *Extraterrestrial Languages* (Cambridge: MIT Press, 2019), 31.

17: It should be noted that there are those who claim that universal grammar might truly be universal insofar as “the number of evolutionary end points is [or rather, may be] limited” and thus other entities are likely to develop similar linguistic structures to humans (*Extraterrestrial Languages*, 45. See also Charles Cockell, *The Equations of Life: How Physics Shapes Evolution* (New York, NY: Basic Books, 2018)). This view seems foolish and anthropocentric and while this paper is not the place to levy a full critique, I would point the reader to Vilém Flusser’s *Vampyrotheuthis Infernalis* (© Louis Bec, trans., Valentine Pakis (Minnesota, MN: University of Minnesota Press, 2012) / trans., Rodrigo Maltex Novaes (New York, NY: Atropos Press, 2011)) and its discussion which discusses a highly evolved and intelligent entity that has taken a radically different evolutionary path from that of humans despite being under similar physical constraints (e.g., existing on Earth).

18: CCRU, “Barker Speaks: The CCRU Interview with Professor D.C. Barker,” in *Abstract Culture: Digital Hyperstition* (London, UK: CCRU, 1999): 2-8, 2.

occupies not only their own social niche—that is to say, social context—but each has a system of communication that is symbolically coded in a unique way. Breaking from this context, something Derrida hoped to allow for, proved to be too large an assumption to make when analyzing extraterrestrial signals. Indeed, without a direct and visual referent, distinguishing between naturally repeating signals and artificial signals served difficult (especially in light the human propensity to find meaning in random events). Thus, Barker was tasked with finding out “how to discriminate – in principle – between intelligent communication and complex pattern[s] derived from nonintelligent sources.”¹⁹ Indeed, following Derrida’s “Signature, Event, Context” lecture and subsequent discussions around the mutability of context and the role Universal Grammar played in the structuring of natural languages, Barker took an interest in the problem, hoping to sever communication and context.

According to documents recently acquired via the Freedom of Information Act (see Appendix A), in the 1980s NASA baptized Project Scar

while Barker was working in Southeast Asia (Borneo specifically). The aim of the project was to create a “general purpose decryption protocol’ for identifying intelligent signal[s] from alien sources.”²⁰ Naturally, anthropocentric bias had to be excised as much as possible. This, (un)fortunately, included the disposal of Universal Grammar (and with it the hope of using natural languages to communicate) and thus lead Barker to seek a truly ‘universal’ mode of communication: mathematics. While a perversion of classical linguistics and a shot into the domain of mathematical theory, Barker saw the transformation of natural languages into high abstractions conveyed via symbols following basic, seemingly ‘universal’ mathematical principles, as the *necessary next step in the evolution of linguistics*.

Taking this, Barker began to strip current numerical systems of their context. Since Arabic Numerals (and the systems under which they operate) are themselves highly anthropomorphized and coded within a specific framework, Barker sought to remove “presupposition[s] as to origin (e.g., ‘xenobiological organ-

19: CCRU, “Barker Speaks,” 2.

20: “The Tic Xenotation,” on Hyperstition, published 7/7/4. (<https://archive.is/Dp8RB>)

isms’) or theme (e.g., ‘cosmo-chemistry’)” and thus developed what he called Tic-Xenotation (TX). “[A]s a maximally abstracted or ultimately decoded numerical semiotic, stripped of all nonconstructive (or symbolic) conventions,” TX is at once ingenious in its simplicity while simultaneously being perversely complex.²¹

TX “elegantly provided an abstract compression of the natural number line (from 2 ... n) with a minimum of coded signs and without modulus.”²² While TX is itself designed to be a self-contained, self-defining system without need to reference any other numerical system (its success in this area is an open question that mathematicians are working on), it can theoretically be coded and decoded using any numerical system. For ease of understanding, we will be looking at it in relation to Arabic Numerals.

Taking the Fundamental Theorem of Arithmetic (FTA)—namely, that any positive integer can be uniquely represented by a factor of primes—as its starting point, TX mischievously undermines numerical hierarchy by reducing all notations and operations down to two points:

tic-clusters and implexions. The former being ‘:’ and the latter being ‘()’.

In its simplest form, TX takes the natural number line and factors down all non-primes into their constituent parts and then, according to a series of rules, rebuilds them so as to thoroughly dehumanize them. Positive integers greater than 1 follow the FTA, and all primes have two values associated with them: a magnitude and an ordinate value. The magnitude is the absolute value of the number in question while the ordinate value is its place on the prime number line. 2, the first prime, has a magnitude of 2 and an ordinate value of 1. 7, the fourth prime, has a magnitude of 7 and an ordinate value of 4. This unfolds continuously and thus one can think of the magnitude of n -prime as being n , while the ordinate value is something else yet to be determined. Magnitude 2 is represented by the tic-cluster ‘:’ and thus all multiples of 2 are equivalently expressed as ‘ $n \times :$ ’ where n is the exponent 2 is raised to. $2^3 = 8 = 3 \times : = \dots$

Following that, there are two operations: multiplication and implexion. Iplexion transforms any magni-

21: “TX2,” on Hyperstition, published 2/22/5. (<https://archive.is/6jV6F>)

22: “The Tic Xenotation,” web.

tude into an ordinate value with the new magnitude being prime.

- 2 = first prime = : therefore
(2) = (:) = second prime =
3 therefore (3) = ((:)) =
third prime = 5 therefore
(5) = (((:))) = fifth prime =
11, and so on.
- This works for non-primes.
4 = :: therefore (4) = (::) =
fourth prime = 7. 9 = 3×3
= (:)(:) therefore (9) = ((:)
(:)) = ninth prime = 23,
and so on.

Compounds are expressed as the product of their prime factors—e.g.,
18 = 2 x 3 x 3 = :(:(:)).

To cancel an implexed operation, Barker added what he called deplexion: -P.²³ An implexed deplex, (-P), lowers the ordinate value of the TX-coded number it is attached to by 1. Thus, while (:) = second prime = 3, (-P)(:) = first prime = 2 = ∴. This allows an easy way to drop to 1s and 0s with (-P): being equivalent to the *ur*-prime, 1, and ((-P)): being equivalent to 0. What follows are the first 10 positive integers (including 0) and their necessary TX counterparts.

0 = ((-P)):

1 = (-P):

2 = :

3 = (:)

4 = ::

5 = ((:))

6 = :(:

7 = (::)

8 = :::

9 = (:)(:)

10 = :(:(:))

And so it unfolds. While a clearly non-conventional linguistic approach—indeed, an approach that might make some linguists feel uneasy—convention goes out the window when attempting to engage with the radical Other. The brilliancy of TX is that it operates as a starting point to boot up communication and, in turn, allow for a re-emergence of the natural languages that linguists so love. As such, TX, while highly abstract and not recognizably linguistic, operates *prior* to linguistics proper and serves as a way to *initiate* communication between radically different entities. It is the demon we need if we are to talk to extraterrestrials.

23: While Barker left 'P' as a symbol, it can just as easily be removed and replaced with '-.'

We shall keep it for historical consistency and the needs of existent converters.

Appendix A:

Letter from an unnamed director at NASA confirming the existence of Project Scar and Dr. D.C. Barker's involvement. No other information was to be released with my FOIA request.

NATIONAL
AERONAUTICS
AND SPACE
ADMINISTRATION



NASA HEADQUARTERS
1520 H STREET NORTHWEST
WASHINGTON 25, D. C.
TELEPHONE: EXECUTIVE 3-3260 TWX: WA 785

IN REPLY REFER TO

Dear Dr. [REDACTED]

I send regards from Washington. While the weather must be stifling this time of year in Borneo, I hope the [REDACTED] Institute has furnished you with all the necessary amenities. I've been in contact with Mr. [REDACTED] of the [REDACTED] Institute and he assures me that Dr. D.C. Barker - whom I've heard is quite the eccentric - is on his way down to meet you. After reading his dissertation, Signal Identification in Positive and/or Recurring Feedback Systems, I have no doubt that he will be able to help you with Project Scar and the transmission you received from M [REDACTED] on [REDACTED]. His...peculiarities and desire to go beyond the human will no doubt be an asset as he clearly thinks like [REDACTED].

I wish you the best of luck in this project and anxiously await the field report. May [REDACTED] and [REDACTED] be with you in this momentous task.

Regards,

[REDACTED]
[REDACTED] Director

March 3, 1983