

## From a letter to Talan Memmott

My task here is to write an essay on The Roots of Nonlinearity: Toward a Theory of Web-Specific Work. Well, as intentional aim, nonlinearity seems to have been around in a popular way since the 70's so that's not new. And, yes, the history before it was called that, goes way way back even to the Song of Solomon. But quickly one arrives at hypertext and that's been pretty well tackled throughout the 90s. So then, what's the problem.... What's missing? I think it has to do with depth, visibility and dynamism of the page. Lack of emotional investment in the writing is also a failing. With the addition of these things, possibly hypertext will become more satisfying.

I was thinking this morning about Gertrude Stein who said the problem with a play was that you have to keep refamiliarizing yourself with the characters, you couldn't comprehend it all at once like a landscape. Thus, she wanted to write a play like a landscape. All that jumping from page to page (totally new refreshed URL) has an abortive effect, suddenly with the rudeness I can't remember what has happened; I quickly lose interest in the characters and their paths. I think that allowing the links to unfold on the page in the way you've been experimenting with is one solution. To be able to see parts of what has gone before is important. We are not moles living in separate holes, right? Visually being able to track is important unless you have a photographic memory. To create the layered, dynamical type of pages I'm working with is another approach. To have the playful interactivity (poetically) that Reiner Strasser has is yet another. Anyway, I think we're taking it in a viable direction.

The other area, the most important area for me, that I'm trying to articulate has to do with space-time. I know the importance; I don't quite have the vocabulary for it. Now I'm struggling, as I periodically do, with Chaos Theory and Strange Attractors (phase space, turbulence, pattern) and Hyperspace (10 dimensions).

During an ALDEN B. DOW CREATIVITY FELLOWSHIP, Funding and Residency I created a Web-Essay, "The Roots of Nonlinearity: Toward a Theory of Web-Specific Art-Writing." Creativity Center, Northwood University, Midland, MI, 1999.

Talan Memmott published *the piece* in *BeeHive*. I believe this passage on the left was part of a complex page with show hide script.

The Roots of Nonlinearity:  
Toward a Theory of  
Web-Specific Art-Writing

- 1) POSITION [maze plat]
  - 2) PROBABILITY [teal uncertainty]
  - 3) PENETRATION [green op-portunity]
  - 4) PARTICIPATION [tuxedo night]
  - 5) DRAMATIZATION [deep space]
  - 6) CONNECTION [pink kiss]
  - 7) OMISSION [atomic script]
  - 8) INCEPTION [page one]
  - 9) INSCRIPTION [green invention]
  - 10) EMPTINESS [fleur de lis eclipse]
  - 11) TURBULENCE [quantum curtain]
  - 12) REPETITION [rose delirium]
  - 13) DETERMINISM [runaway amulet]
  - 14) EXPANSION [hidden columns]
  - 15) DYNAMISM [underwater scene]
  - 16) ATTRACTION [charismatic balls]
  - 17) GEOMETRIZATION [circle blink]
  - 18) SATISFACTION [bliss balls]
  - 19) OSCILLATION [cinquième cherry]
  - 20) INTERFERENCE [water finger]
  - 21) CONFIGURATION [satin wheel]
  - 22) PREDICTION [peach sky]
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POSITION [maze plat]

The Roots of Nonlinearity: Toward a Theory of Web-Specific Art-Writing  
I am nervous as I begin to dig.

I don't like to think of non-linear as like roots, like trees, like branches.  
The jumping from tree to tree as a spider monkey, on an island in Florida,  
left for the amusement of diners. I like to think of the unfathomable depths  
of a cave, a pit, the snake pit will do. A place dank/mad or intimate. Similarly  
modern physics has taught us to do without the concepts of an absolute scale  
of time and of objective events in space and time. We call this spelunking.  
For diamonds. We are slaves but occasionally slip one out to the world.  
Emeralds, too. Ever notice how certain people are jewel-like, clear. The

aura has been dusted. At times my jewels swim into the computer; not until I bathe and walk do they return to me. Jerry was afraid, afraid his spirit would slip into the box, the monitor, the network. If that were true, I said, the web would be a more soulful place. We donate our lives.

Werner Heisenberg (1901-76): there is no definite initial point of view from which radiate routes into all fields of the perceptible...all perception must...be suspended over an unfathomable depth. When we talk about reality, we never start at the beginning. We begin with the ferns out my window. Like a thief in the night I will pull one up, examine the dirt, the round clinging nuts, if there are any. The dampness. Careful to avoid any poison ivy. This is summer, my friend, in Midland, Michigan. I believe most associate linear fiction with a beginning, middle and end, a form now known as the conflict, crisis, resolution model. A model of the normal curve but skewed right. Think of the curve for orgasm and you will have it. I have a biological take on the pleasures of fiction.

Marguerite Duras (1914-1996) in a novel/autobiography, the two blurring in age/mental maturity. Knowing perhaps in the final analysis there was no difference for her. She wanted someone to kill her. Maybe that is why I am in love with a murderer. He has killed three people. I know the story of two. They were all women, yet he says he harbors no animosity toward women. His name is Jerry.

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## PROBABILITY [teal uncertainty]

We never start at the beginning. We plot our coordinates; sometimes events overlap. We aim for an integrated whole that can be more and more deeply penetrated. Underneath are many visceral mysteries.

Depth fascinated him. Disturbances fascinated him. Every observation disturbs. Do you find your gaze avoiding that of the other, the transparent aqua eyes of the woman to be skirted like an iced pond in winter? Tonight the peach sky was reflected in the Tittabawassee. Jerry played league baseball. Beer cans were piled around a light pole.

The more precisely the position is determined, the less precisely the momentum is known, and vice versa. Heisenberg, *Uncertainty* paper, 1927. This idea liberated scientists and artists from a purely mechanistic view of the universe. Cause and effect was not all. Heisenberg showed that the observer had an effect, disturbed the outcome. This is not a big leap to the idea of the reader as respondent, provocateur or even fairy godmother, influencing the flow of events.

Jerry is the kind of man who if he saw a deer out his windows at dawn, would go outdoors naked and walk toward the deer and the deer would stand still for it. Jerry is confident.

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#### PENETRATION [green op-portunity]

Seated on a bench atop the bridge, I was *reading Black Hair Blue Eyes*. Every now and then I caught sight of the water far below.

In the midst of this bliss, I expected to see the skeletal remains of Jimmy Hoffa floating by. Perhaps death is not inconsistent

The movement made me think of giving way, the drop in the stomach. Pleasant, stirring.

'Poem for Werner'  
'5-foot wing-span'  
'poised above unfathomable depths'  
'a fern-lined hole, at Nevado de Toluca,'  
'there are no beginnings, only openings'  
'we plunge into the interconnected whole'  
'the base is wider than the lip'  
penetrate deeper and deeper'  
'on earth I lie on skins'  
'my face covered in black gold'  
'there are no beginnings, only openings'  
'we camp under la luna roja'  
'the red interconnected whole'  
'oil covers our faces, our lives'  
'in Tulsa & beyond, aguave.'

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#### PARTICIPATION [tuxedo night]

This is not a page turner; this is a column mover!

He invited me with his eyes to follow him onto the verandah. "I want to tell you something," he said. "I have killed three people, can you love me?"



I

looked over the balustrade and expected to see a drowned woman floating  
by. Jerry's eyes were green, I  
looked over the balustrade and expected to see a drowned woman floating  
by. Jerry's eyes were green, a disturbed  
water kind of green.

"Forgiveness isn't easy for me, it sticks in my craw. I can barely speak words of forgiveness."  
"That part won't be necessary," he said.

[nitelite]

CONNECTION [pink kiss]

At dusk I did T'ai Chi on the path & 10 feet away 3 deer grazed.

There is a difference between speeding down an evacuation route and the heart  
expanding into space seeking tangential lines of connection.

His eyes invited me to follow. Web-specific is more inclusive,  
subsuming hypertext and other concepts and techniques

My hand reaches out, but I know  
that it is my hand. You kiss my hand and I yours.

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OMISSION [atomic script]

Omission, veils, shadows, secrets, ellipsis, areas of missing information create a type of murky  
river, something that stops the flow of ever-streaming communication. If I am jumping over or  
swimming through an unknown body of water, I am slightly disoriented in space and time.  
Unresolved mysteries. Raymond Carver was a master of the ellipsis. Cinema created a type of  
short hand enabling short cuts. Why not omit the ending of the story; that's life. Or let the  
audience take on the responsibility of resolving the tale. Lift a veil.

He wants me to understand the handwriting of atoms. I think it's something like Desdemona.  
Stealth. Suspicion. Shadows.

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INCEPTION [page 1]

Why do you begin on page 1?  
You could begin on page 77.

education?  
breeding?  
longing?  
for a happy  
ending?

Scene: granular lavender twilight. He entered  
my life with the velocity of orange. Rough  
pastels were smeared across crevices of Strathmore.

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#### INSCRIPTION [green invention]

I view hypertext as a subset of what is fundamental to web-specific work. I have an almost spiritual respect for the spatial-temporal aspect of the web interface. I think this quality can profoundly influence cognition. While it is true one can realize a nonlinear fiction more easily with hypertext links, nonlinearity has been well demonstrated in print by Woolf, Cortezar, Calvino, Duras and others. In more recent times, Acker, Maso and I have an extensive history of creating non-linear texts on paper. At least since the 20s, a primary area of exploration for fiction has been space-time. The challenge has been to find a form that addresses changing perceptions of time and consciousness. The goal has been to produce a form as satisfying as the conflict-crisis-resolution model. Computer capabilities have inspired an emphasis on connections and inclusiveness. Although hypertext can be a group of connected pieces of literature, I don't feel this provides the aesthetic thrill I'm looking for in a definition of hypertext or the larger area of web-specific work. The reduction of hypertext to an electronic collage or cut up lacks the depth and complexity I sense is possible in the medium. Examining definitions of hypertext by literary theorists, I am struck by the absence of references to hypertext markup language. Perhaps few hardcode their work. I have always felt the underlying language was significant and affects, infects thinking of those who work with it. It is a language that constantly demands choices, that is spatial and highly concerned with commands and their cessation. Control of the page and assigning portions to tables or frames has undergone a fascinating series of progressions. To not sign off on one font command caused all of the blocks of text on this page to form one mass of narrow columns! True many when they speak of hypertext are concerned with commercial CD-ROM ventures. My interest has always been in the Web, where immediacy and new conventions are a constant.

Designer, Generalist, Contrarian, Theodor Holm Nelson, 1937-

Best known for: coining terms "hypertext" and "hypermedia," 1963  
Imitating paper on a computer screen as almost all consumer applications presently is like tearing the wings off a 747 and using it as a bus on the highway. What we really need is software designs that go into realms that cannot be visualized on paper, to break ideas and presentations out of their four walled prison

The first woman Jerry murdered was his mother. Dying of multiple myeloma and in exquisite pain, she begged him to smother her. After her arms had heaved their last reflexive sigh he felt guilty. Not because he loved her but because he didn't.

The Roots of Bliss: Toward Nirvana: Web-Specific Art-Writing

EMPTINESS [fleur de lis eclipse]

I blow a dandelion rosette into the wind; it travels into all fields of the perceptible. What a story those seeds could tell. Nonlinear dandelion story. Seeds writing on the wind. Heisenberg wanted us to learn the handwriting of atoms. Dandelion: member of the Sunflower Family (Asteraceae). Blooms March thru September. Pick one, notice the milky white, sticky exudate on the stem. Latex, a complex metabolic cell product. Write with it. Use young leaves in salads, dip the flowers in batter and fry. Ahhhh, the atomized aroma of frying flowers.

Marguerite Duras  
*Blue Eyes Black Hair*

The spaces between passages have profound significance for fiction. This book is typical of many Duras works. Short paragraphs are followed by drops. The spatial-temporal awareness demonstrated by Duras moves fiction into a ready-state for the web. If hypertext were all, but hypertext is not all. The beauty of Marguerite Duras's formal elegance is undeniable. The spatio-temporal element in fiction can reach full-blown expression in web-specific writing. Space between short passages creates an awareness of time. A breath-conscious rhythm is established. It is almost like the effect of a 16-line sonnet--a passionate form. The contents of the paragraphs seem elevated by the air surrounding them. A psychic space, like the energy field around a person. The space in which clandestine rendezvous and spiritual bonding transpire.

Typically, the passages are discontinuous or nonlinear. The language shifts in time/ voice/setting in a significant way. A passage about film direction might be interjected

in the midst of a series of fictional passages. Interesting, I think of them as passages rather than paragraphs. They are both, but passages has a temporal connotation.

### The Spaces Between the Lines

T'ai Chi on the mall. I turn & there's a deer. Turn  
again & there's another. You are in the deer  
in everything timid & powerful,  
everything cautious & wild

the chaotic disarray of the sheets

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### TURBULENCE [quantum curtain]

...quantum theorist Werner Heisenberg, on his deathbed declared he had two questions for God, why relativity and why turbulence. Heisenberg says, "I really think he may have an answer to the first question."

James Gleick in *Chaos*

Turbulent Matrix Man  
You can get there from here.

Killing me softly with his words  
Roberta Flack

Maybe that was it, a soft annihilation.  
A defeat of resistance and the ego.

One could almost develop a theory of web-specific art based solely on Heisenberg. First, the emphasis on statistical probability and the observer effect translated in the arts into honoring chance/randomness and participatory power. Much less felt was the emphasis Heisenberg placed on turbulence and matrices. This could have translated into disjunction and patterning, but it took ideas associated with chaos theory to allow that to happen. The Butterfly effect, recursion and bifurcation were all ideas associated with chaos theory and eventually nonlinear fiction.

Typically changes in the arts depend upon a constellation of ideas from various fields which eventually cannot be denied. They reach critical mass.

Green strip of land behind the stand of pines. Tender green the color of a broccoli stem when you peel away the skin.

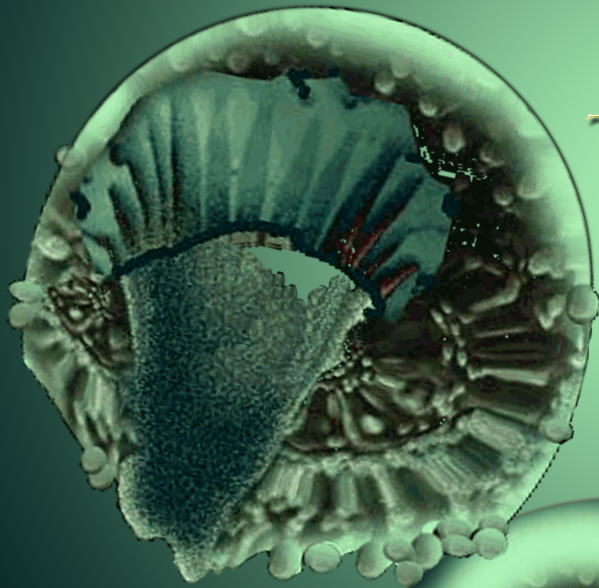
lying two amplitudes  
together to obtain an  
intensity results in an  
infinite sum...

$$C(n,m) = \sum_k A(n,k) B(k,m)$$

In quantum mechanics, A  
times B does not  
necessarily equal B times A

$$\sum_k p(n,k) q(k,n) - \sum_k q(n,k) p(k,n) = h / 2\pi i,$$

h being Planck's  
constant.



# THE ROOTS OF NONLINEARITY TOWARD A THEORY OF WEB-SPECIFIC ART-WRITING

Christy Sheffield Sanford



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I redid this introduction or cover sheet to improve shading and