

MAKING THE VNIVERSE

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underlined words are links online

ICE AGE READER

Fred Muratori in his review of *V: WaveSon.nets/Losing L'una* says that Strickland was asking for much more than his attention—"she was asking for my transformation into a different kind of reader."

V is haunted by similarities between the nomadic Ice Age task of reading and 21st-century reading.

Ice Age nomads in their life of travel figured out what questions to put to their surroundings. Obvious attention was paid to glaciers and plant life and the migratory patterns of fish and mammals, but also to that distant unreachable but readable realm, the night sky, full of what we call stars, planets, and comets, but really a night filled with traveling patterns, brilliant pixels, or nodes, or neurons perhaps.

How was it named and seen and read by people on the move? For nomadic people, strategies of signification are inherently time-based. Their paths are loops created in interaction with the weather. What are ours? What "constellations" or clusters or attractors are we drawn to? Do we explore recombination as a kind of migration, a kind of leaping process of the word/thing with a very delicate inner structure? Do we seek a new time-based visual reading, something different from time-based listening?

DIGITAL MEDIA READER

Border-crossings, gestural, graphic, numerical, and cognitive, fuel *V*, a poem of flowing, marking, and migration, dedicated to Simone Weil. The online portion of *V* opens the reading experience of the poem in ways impossible on paper.

Digital poet John Cayley says that the atom of signification in his poetry forms an object, in the sense used in object-oriented programming, a movable unit that can enter into many situations. This object contains the language found at nodes, the coding, the running of the code, the time required to run the code, and all the transitions that occur in that time.

Thus a new question is brought to poetry by programmable and networked media: what is the status of the transitional phases?

Cayley wishes to foreground this aspect of the time-based materiality of language that has always been submerged and risks being submerged even within e-literature. We need to read in a different way to read it, a new reading that develops significance and affect differently, a type of reading closer to seeing, one that problematizes the see/read difference, thus involving both sides of the brain. A central question is how one's memory of the text is affected.

V has at present four parts, two online (*Vniverse*, *Errand*) and two, *Losing L'una* and *WaveSon.nets*, bound together in an invertible book whose title drives across the slash, *V: WaveSon.nets/Losing L'una*. One can begin *V* at either end of this book, but to read it fully one must invert the text and start again. From either direction one arrives at a Web address and a title, *There Is a Woman in a Conical Hat*.

Treating that title with the procedures of anagram and acronym you will find WITCH in it. And if you go to the Web address <http://vniverse.com>, you find a dark space full of bright points, most easily read as stars, but perhaps neurons, or some other kind of bright node.

This entire space is a Sybil space or Oracle space which can be explored by the wave of a seeker's hand. Repeated clicks release a cascade of events at a scale both below and above that of the print book. The smaller scale is that of the triplet (232 of them), the intermediate scale is that of the constellation outline designated by a set of keywords which form a gnomonic poem, and the larger scale is that of the constellation and the set of WaveSon.nets that belong to it. These poems lead from one to another by means of a "next" button.

This entire Sybilline space can also be explored by entering a number in the dial, or empty circle, at the top right of the screen.

The poem *V* (print book, *V: Vniverse, Errand*) speaks to the charting of new courses in several dimensions. It was of primary importance to us to give new kinds of reading power to the reader, for instance releasing text into motion by touch. For Strickland and Coverley, it was also important to enable reading by stopping motion.

V explores many knowledge-sources, named and anonymous, collaborative and communal, that charted alternative courses for their time. Among these: Simone Weil, the devisers of Tarot, Haitian religious leaders, nursery rhymes, 19th- and 20th-century mathematicians, and developers of digital computation and virtual reality systems.

When reading online, when transformed to that kind of reader, the indispensable recognition is that you always have a co-reader in a way you do not with print. Not only are some of the display choices made only by the computer, but if the computer is not reading the code there is no poem to be had. This is a situation quite unlike torn paper, books remaining unread on a dusty shelf, a broken Ozymandian statue in ruins to reconstitute. This reading situation depends absolutely on the temporal coincidence of many human and non-human choices, many human and non-human processors, or it is nothing. As fragile as an ecosphere perhaps.

READING BY TOUCH

Our most important goal in implementing the *Vniverse* was to give the reader ways to chart their own new courses.

V readers bring to the star/sky scene what the Ice Age reader brought to the circling sky: both their impulses, go here, go there, following their instincts, and survival-oriented questions.

One new course that the reader can chart is that created by touch. Sweeping, lingering, tracing out, and pressing/clicking are hand actions that put the poem into movement in different ways.

Swinging or sweeping your hand (cursor) across the opening sky of stars causes fleeting images to appear—not really images, but diagrams, outlines that disappear as soon as your hand leaves them, as if they were fish diving back underwater, or forms disappearing into blackness.

Lingering on a star lets you see its constellation and its number. It releases the spelling-out text of a little numbered triplet of the poem and a keyword excerpted from that triplet. If you **press into** or click the star, snagging that triplet as it were, the constellation stabilizes, temporarily permanent. You can now explore it onscreen.

If you **trace it out** with your hand without clicking, lingering with the diagram, you can read an associated set of keywords, a "compressed" poem in fact.

Though not identical with either astronomical or astrological constellations, these diagrams are spontaneously read by readers as constellations.

Clicking a star on the constellation releases the text of a WaveSon.net. Each poem begins, not as it does in print, but rather with the star/triplet chosen by the reader, and assembles itself not sequentially, but in relation to that chosen triplet, which displays in color while the other lines of the WaveSon.net display in white.

Persisting, clicking the same star yet again, will change the form of the WaveSon.net to that of a set of triplets. Repeated clicking will toggle these forms, oscillating between them.

The reader wishing to move on can make everything disappear with one click of the darkness, or s/he can press a “next” to keep reading in the same constellation. The “next” choice will also bring about one of two forms of decay/disappearance of the text. Whether reading the WaveSon.net, the triplet set, or reading the swift or palimpsestic forms of decay, the reader can simultaneously swing or sweep a hand, bringing new numbers, new keywords, and new triplets into play overlaying the text that is playing out on its own.

READING BY NUMBER

We bring to the star/sky scene of *Vniverse* what the Ice Age reader brought to the sky that circled above her or his head: either our impulses and our instincts, or oriented questions. For the Ice Age reader of the sky the questions were apt to be of the sort: how can I intersect with the migrating animals, how I can bear my children so that their most vulnerable weeks occur in the warmest months of the year.

The 21st-century reader who doesn't want to chart a course by touch is apt to be looking to establish a sequence, and/or the structure of a database, or to be more comfortable querying an oracle by number than querying by touch or physical exploration.

Reading by number has an analytic sound. In the print text of *V*, many different kinds of numbers occur (some of which are described in the TIRWeb interview). Very often these numbers disrupt or puncture the text. They always punctuate it in some way, but not in the conventional way numbers are used to separate stanzas. Thus one must decide to read across the number, to actually read it, or to treat it as a pause of varying length.

In the *Vniverse*, numbers have a much clearer orienting or indexical function. Every star has a number, which is to say that every triplet of the poem has one. Each number has an associated keyword. To read through each triplet in sequence, to read through each keyword in sequence, and thus to read through all the WaveSon.nets and constellations in a sequence, one can simply type the numbers from 1-232 in the dial, the circle in upper right corner of the screen.

The number reading process does constitute a kind of sibylline process. When we publicly perform the poem we ask one short question repeatedly and input varying numbers in the dial to obtain the answers. While one of us reads the answers, the other will sweep her hand across the sky to evoke other comment or perspective on that “answer.”

When we go from “moment” poems (eternal panoptic soothsayer view) to “movement” poems (contingent event ending up who knows where) the body is activated. But whose body? This is one of the questions we put to the *Vniverse* dial.

CONSTELLATIONS

Though not identical with either astronomical or astrological constellations, the diagrams that appear in response to a sweeping or swinging movement of hand across the screen are spontaneously read by readers as constellations, and we call them that in our instructions.

Edward Picot, comparing the *Vniverse* to print *V*, says that “reading...in this hopping-and-dipping manner rather than in sequence seems to bring out more quickly the themes which run through the whole

group—references to astronomy, to cosmological time, to mathematical sequences, to tarot cards, to Simone Weil, and to the letter V, symbolizing fertility and virginity both at the same time.... ‘a woman in a conical hat,’ the spreading-out of stars in a ‘a wedge of sky,’ and the spreading-out of electrons in a cathode-ray tube.”

It is likely that part of this effect is due to the simultaneous imprint on the reader’s eye of a constellation-like diagram and the appearance of a keyword and a triplet of text, or a whole set of keywords, if the reader traces the diagram manually. It is also in part due to the very rapid manner in which the reader can scan the whole poem onscreen, at least at this “compressed” level.

We agree with Picot that each version of the poem offers better access to certain kinds or levels of experience. Part of this effect is due to the difference between stasis and movement and part to the difference in ease of access to varying levels of organization.

It is certainly true that the smallest particles of the poem are better accessed online. In fact, they are only explicitly available there, as triplets. And they are easily available, because they are numbered and can be summoned at any point. There is, however, no list of these in the way there is a contents for the Losing L’una section of print *V*, and no search engine for finding them.

As Picot implies, there is also a level that is not explicitly present in print which he calls thematic. Rapid scanning of many triplet/keyword combinations brings up a variety of references that will recur. We have our own names for the constellations: Swimmer, Kokopelli, Broom, Twins, Bull, Fetus, Dragonfly, Infinity, Goose, and Dipper. They grew out of the struggle between the material of the poems they chart and our need to be able to make them work visually as interfaces. Dipper is a link between the Vniverse and the universe that Western astronomy presently describes. It is given in two parts, an actual dipper (for water) above and the head of a bear below, which refers to the Ursa Minor and Ursa Major names for the dipper constellations.

Charting a new course here means seeing the connections between old names, very old names, and new pictures. Since these names are not given on the site, it is a matter of conjecture whether readers will or won’t see a fetus in Fetus, for instance, though all might see the Goose. Strickland has compared these constellations to those that Persephone might see were she taken to an underworld of water, not stone; the constellations that would serve as attractors for her through the distorting lens of water as she longs toward life and her mother in the upper world.

THE WAVESON.NET TURN

In *V* one might say that the WaveSon.net is in continual discussion with the sonnet. On paper, the WaveSon.nets form one long standing wave which runs across the borders of their number-names and the mirroring page-numbers. The energetic turns, the crests in this wave, are not aligned with either the beginnings or ends of the individual WaveSon.nets. Yet each page is a WaveSon.net unit with its own shape, functioning as a poem on a different scale from the long wave. In fact, it is as separately numbered WaveSon.net units that the poems were published in magazines.

What is being rethought is the sonnet as a poem. As Phillis Levin shows in her excellent introduction to *The Penguin Book of the Sonnet*, a sonnet is a poem that shows the mind in action, the mind turning to talk to itself, the mind anticipating an irreversible turn. This notional turn, this possibility for transformation, is signaled formally by what is called the sonnet turn, or volta.

The form, of both royal and folk provenance, originated in 13th-century Sicily in the court of the same king who invited Fibonacci the mathematician to his table. Volta, however, is also the name of the Italian Count who invented the first electric battery. So when Strickland considered the sonnet as a poem of recursion, characterized by the mind turning and talking to itself, she thought of *V* distributed across the pages of a book and in electronic locations, as making a turn, a volta, made possible by Count Volta: in effect the

whole distributed poem turns to talk to itself in an extension of the characteristic work of the sonnet. In each of its locations, the poem offers resistance to traditional definitions while still honoring their founding impulses and work.

Onscreen, the WaveSon.nets live under an entirely different regime, one of interactivity by touch or reading by number. Interactivity is not co-authorship; it is a different way of reading. With a sweep of hand online the reader releases the writing out of triplets which prove to be the inner structuring units of the WaveSon.net sequence.

Firmer and firmer pressure from the reader, clicks and doubleclicks or repeated clicks, yield entire WaveSon.nets and allow them to oscillate back and forth in form, between a series of triplets and the WaveSon.net form found on paper. In addition each triplet now becomes equally privileged within the whole WaveSon.net. Each triplet is now the beginning of the poem.

As Cayley asks, how does this affect the memory of the text? Is it the stability or the difference you retain? Is it the word-spelling-itself, or the word displayed-in-color, or the word-in-constellation, or the word-in-decay that arrests your attention as bearing significance or affect?

FUTURE VNIVERSES

Our hope for the future is to go beyond reading by touch and reading by number to implement reading by sound, reading by moving, and reading by attending to the computer's programmed choices.

Installation

The *Vniverse* is one space in which nothing irreversible happens, though many things can be explored over time. Exploration leads naturally to the idea of a physical installation. We envision a gallery installation of the *Vniverse* where the triggered constellations may be mirrored in water or Mylar on the floor and where curtains of steel mesh will catch and hold the projections. An echoing space of constellations and keywords may at certain points give rise to heard readings of the WaveSon.nets.

Both of us are interested in the creation of new social reading spaces. Current users of immersive spaces are not accustomed to using them for reading, but they are accustomed to using them for exploring. We want to create an experience of exploratory reading.

Sonics

In reading by sound we want the reader's navigational choices to trigger various kinds of background sound, perhaps musical. Though we have been requested to include sound files of Strickland reading each triplet, this is not what we want to do with the sonic *Vniverse*.

Generative

Reading by attending to the computer's choices involves programming that randomly associates any other 4 triplets to the one chosen by the reader. If the reader chooses triplet 7 and the computer chooses 9, 91, 231, and 85, then the assembled poem would be titled WS 7.9.91.231.85 which would toggle to the triplet set titled 7.9.91.231.85. If one of the pre-existing WaveSon.nets happened to occur it would be called by its name, WaveSon.net 32, for instance. The reader can thus release WaveSon.nets never seen in print and perhaps never seen again. Other variants on this scheme would allow readers to input any word from the poem and assemble triplets based on those choices, perhaps allowing repeats.

Another question arises as to how densely one wants to layer the screen. Should each poem disappear entirely? Should some state of the palimpsestic disappearance be preserved and overwritten onscreen until a given visual density is achieved that pleases or satiates the reader?

KEYWORDS

Here they are:

[Gap] "do while" 2:32

albatross algebra algorithm Anchoress Archaic

bay bear bee begin believed bent beret bird bittersweet bloodied blown up blushing bone born bottle
breasts breed briar broom bull burns

Cantor cathedral caves cell chain chalice chaste coding conceive conception core cradle craves
crystals curtains

data structures decreation delicacy dice dinner dolphin dots double dragonfly dragons drift drowns
drummer dust

easy embraces emerald end engineer Erasure escaped exactly exquisite

feedback Fishes flowing flying freefloating Freud

gaps garret germ-shapes Goose gored grave Green- grinding guard

hair hat hears Heaven hidden hiss history holes hollow hook horned human

Ice instruct intact Intendo

keyholes kill

lag leaf space Leap lens life liting lining lock lost lunar lured

Marseilles Mathematicians meander meet membrane memory mermaid Metamorphosis Minute Misfits
MIT monks moon-death moon-months mother mystery

nails nothing nursery

Oc open osprey ordeal outrun owl

paralyzed par-[ur]i-tion peak penguins phallus pink pleading
poems of knowing pole power prayer Precession prong pure

quantum

R2 ranking rape recognize red reindeer relaxation Renewal replenish retrieve ritual Roadrunner
robotic run run-time rupture

safe salmon sea secrets shame shepherd silent sings skirt smile Solstice solved space-time sparkling
steel straight string Struggling stunned subside suspect

tag tail take tangle tango Tarot tart techniques thorns thrown out tilted tissue tongue torture track
trembling

unconscious undergirding undersea unnumbered unsupported upsidedown

V veering vestige virginity *visual* vulval VV

wander water waveform Web weep well Wetware who witch *Witchfixer* writhing

Yeah *you*

zephyr Zodiac

V AS SOUND & GRAPHIC SIGN

V as a sound changes the word “moment” to the word “movement.”

The print poems of *V* hold their moment fixed on the page (despite devices like numbering and running sentences across numbers that somewhat disrupt that fixity), but the *Vniverse* puts them into movement by four kinds of touch, sweeping, lingering, tracing out, and clicking. Persistence, or obsession, is also rewarded: continued clicking of the same star yields a variety of effects.

V is the initial sound of many words in the poem, for instance the keywords veering, vestige, virginity, *visual*, and vulval. Other important v-sounded words would be variant, vector, vernal, void, vortex, voyager, virtual, volt, volta.

V, visually, is the sign of water, especially if repeated, VVVV, and it is the sign of a bird. More specifically, it shows the space between wings, of a goose, say, and then at another level, the space between geese as they fly, in V formation.

V, visually, is the V of an open print volume. In *V: WaveSon.nets/Losing L'una* this opening is where a Web address is printed <http://vniverse.com> that will open yet another space.

V, visually, also suggests the hands of a clock, a volumetric wedge of sky, a witch's hat; it suggests an opening, an interim, an interval, a space-between extreme positions. The poem V exists in the space between its variations in print and online. In this it resembles ancient oral poems which have no canonical original with respect to which other versions are derivative. They instead consist in the set of performances and notations that exist and can be expanded or compressed at any time should these be amplified or lost.

The *Vniverse* does not have the colored pictures or soundtracks that many associate with hypermedia projects. We took a decision not to include these, although originally we considered a large set of images, because our primary interest was in exploring an extensive text project online. The diagrams work together with colored text and the visual images of the letters themselves, as these move, disappear, and are replaced or overlaid. The *Vniverse* interface uses the text itself, as it is broken and assembled, and the constellation shapes to create a world of new meanings.

INTERACTION INTERFACE

The computer screen can be approached in various manners: to replicate print, to replicate television, or as an infinite space which can be used for interactive explorations beyond the flatness of the screen itself. *Vniverse* explores the latter.

The decision to use only one frame in which the user is immersed during the entire reading was key to exploring the potential of the screen. In print, readers of *V: WaveSon.nets/Losing L'una* will normally start at either end and read straight through, flipping page after page. Many websites simulate this experience by creating click-throughs as the interactive mode.

A user visits a website with the expectation of finding an underlined word or big button on which to click. *Vniverse*, though full of destinations, does not offer an immediate response to a reader's “presence” on the site. It is s/he who has to choose to “read the stars,” discovering the constellations, just as the reader of the print book has to choose which side to open.

Inspecting the book will yield a page which the reader can take in at a glance. Inspecting the flat starry sky of the *Vniverse* yields a space which can only be taken in gradually by means of various hand/mouse motions. Though either the book or the *Vniverse* can be read alone, the richest meanings will occur to people who are reading between them. Similarly, within the *Vniverse*, many opportunities for “reading between” arise:

the spelling out of triplets enables the reader to process, in an almost auditory manner, the successive letters of the poem;

the WaveSon.nets associated with each constellation may be compared with the traced constellation—colored keywords at each star create a “compressed” mini poem;

the assembled poems themselves may be toggled back and forth between WaveSon.net form and a set of five triplets that share the same set of words, but not the same organization or title;

both the WaveSon.nets or triplet sets in decay can be read as dense visual palimpsests;

the WaveSon.nets assemble differently depending on which star is clicked to initiate them: these differences can be “read between”;

WaveSon.nets or triplet sets, while they are spelling out or decaying, can be overlaid with new text if the reader moves the cursor across the sky.

A seemingly unreactive sky is thus very responsive to the engaged reader. Each triplet is the entryway to multiple other forms and exists between its neighbors in a multitude of ways. The entire poem becomes a continuous present of varying forms, like the night sky, in which readers trace their own path.

However, we face the challenge of reaching readers who are approaching a unique environment with no set conventions, web or print, to help them proceed, so we did create [an instruction sheet](#) for readers who prefer this. However, we encourage readers to proceed on their own.

We believe exploratory behavior empowers the reader. The entire *Vniverse* has been designed to reward exploration and persistence. It is an always renewable, forgiving space where all options are open at any time. Though responsive and renewable, the environment is not in every respect replayable except by [entering the numbers](#) of each star (keyworded triplet) in the dial.

The time element explored in the *Vniverse* is time duration, not irreversible time.

PRIMACY OF EACH SELF-SPELLING TRIPLET

Whenever a reader decides to click on a star, s/he has stabilized a constellation.

If s/he chooses it again, whether because of happenstance, because of where it falls in its constellation, because of its number, its keyword or its color, that star and its associated triplet form the beginning of that reader’s WaveSon.net. The rest of the WaveSon.net assembles around it as a central node, from triplets nearest to it to triplets farthest from it.

The chosen triplet is the first to display as the WaveSon.net assembles itself. This triplet remains colored (the rest of the WaveSon.net is white) even as it is subjected to various processes of decay as the reader moves on. Fill and decay, transitions, intermediaries, fades and residues are a great part of the matter of the *Vniverse* sky.

If the reader presses “next,” the colored triplet in the next WaveSon.net will be one chosen at random by the computer. The temporal fragility of reading is made manifest, for it is very unlikely that one will be able to recapitulate his/her experience exactly, although a great base of stability remains.

Once the entire WaveSon.net has arrived onscreen, there are then at least two competing sequences to consider: the fixed form which mimics the print version (other than the coloring) and the WaveSon.net-as-assembling, which represents a different reading order. The ability to break the WaveSon.net down into groups of triplets and to toggle back and forth between WaveSon.net and triplet sequence, by repeated clicking of the star, offer yet other competing sequences to the reader.

The poem *V* can begin anywhere, in the choice between sides of an invertible book, or in the choice between constellated forms, or the choice of one of 232 units not explicitly available in print, or even with the online *Errand*.

ERRAND UPON WHICH WE CAME

The first part of the *V* poem to be implemented online was a poem from the Losing *L’una* section of *V: WaveSon.nets/Losing L’una, “Errand Upon Which We Came.”* This is a Flash animation done by collaborators Stephanie Strickland and M.D. Coverley. In some ways it sets the stage for the *Vniverse* project because it explicitly raises the issue of a new kind of reading.

In the *Vniverse*, a still screen is put into textual motion by the reader. In *Errand*, the tyranny of cinematic presentation, the inability to stop it and inquire of it, is overcome by giving the reader three ways to intervene: linked text-words, links at the bottom of the screen (looking like old control knobs on pre-remote-controlled television), and most strikingly, by the use of a Nabokov butterfly from the Zembla Website. The butterfly, when clicked and held, stops the animation, pins it to the screen, the butterfly pinning, not pinned, this time. If one wants to *read* the poem text, such intervention is required, because the pace of the animation is otherwise too swift.

The reader, teetering on the see/read cusp, chooses between a visual experience of the poem (augmented with text) or a reading experience of the poem (augmented with animated images). The poem thus poses the question of what reading is to be/become.

In *Errand* Strickland and Coverley use one of Lars Wikstrom’s beautiful book objects (sculptural books) to suggest the tension between the book and the code. They use familiar natural objects denaturalized by repeated applications of digital technology. The backgrounds began with Barry Smylie’s digitized slides of his acrylic garden paintings made into still frames of video posted to the Web—these were then manipulated further to echo some of the visual effects of incompatible browser technologies.

Within the text, there is quoted text, from Simone Weil, a woman, like Emily Dickinson, most of whose work did not appear in print in her lifetime. And here it is again, not in print, but reminding us of a long history of reading stretching back through hearing and handwriting and folktales.

The soundtrack evokes an even older world, where what we “read” were the sights and sounds of the animals—yet these particular sounds in *Errand* come from no one location, but rather a global sound space, which is perhaps the only space left to them.

COLLABORATING

New technologies, and in this case interactive technologies, are natural invitations for exploration. In a collaborative project even more exploration is possible.

Vniverse is a true collaboration in that Strickland and Lawson approached the project from two very distinct positions and were able to implement a common creative and productive space. Strickland brought

the text, the experience of new media and print poetry, and the interest in new reading spaces. Lawson brought an ability to evaluate the project from a technological perspective, her programming skills, and an interest in new interactive spaces.

This collaboration was achieved by consistent group meetings where all the decisions were made, usually face-to-face, but also via email or over the phone. The time between meetings was used for individual development of the work. Programming and text preparation were some of the activities that Strickland and Lawson engaged in individually. The constellations were created when Lawson printed out star maps and Strickland drew the patterns on them. They then sat together at the monitor tweaking these patterns to make them work in the desired way in the interface. Interface interaction patterns were also worked out in common.

Vniverse could not have existed as an individual project, and we find that we most enjoy performing it in collaboration as well. Our performance includes elements of a poetry reading, a software demonstration, a new kind of exploratory reading experience, and a new kind of dual reading experience. We plan our readings to transition from print to Web, inviting our audience to do the same, to not only take that step but to be aware of “how it feels.”

REVIEWS AND INTERVIEWS

“Into the Space of Previously Undrawable Diagrams:
An Interview with Stephanie Strickland”
by Jaishree Odin at The Iowa Review Web

“Intertextu|re|ality” by Fred Muratori at Electronic Poetry Review #5

V: WaveSon.nets/Losing L'una by Janet McCann at Smartish Pace

Bridge Work by Chris Funkhouser in ABR and at Electronic Book Review