DRUGS, MACHINES, AND FRIENDSHIPS
Cybertext, Collaboration, and the Beatles, Take 10
(Norwegian Round Table Mix)

William Gillespie

I'll start with the Unknown.

Our philosophy, while coexisting with the subtle and complex and peculiar and tedious and old-fashioned reasonings of the poststructuralist era as well as fin-de-siecle pre-Y2K-apocalypse Clinton-era America, was more simple: we are writers too. We want to write. We are writers because we write. We have discovered ourselves.

And also: we can write together for fun as well as for practice and even for art. Precisely because we are unknown are we free to write. We will read and write each other's writing, and write each other's and our own criticism until we have forgotten who we are, and the edges of our flesh have dissolved, surrendering us to dissipate in a shimmering ether of spirited collaborative intertextuality. We have all the microcosm a scholar could ask for, without leaving the boundaries of nowhere, the midwestern United States, neither east nor west coasts. Textasy, in short, where we can't help but write. Our every movement sends out ripples across the surface of the text. And we can yell and splash each other and get water in our nose, even though literature is supposedly a private pool held by print publishers and professors. Our recognition will follow our confidence. We walked backward into the canon so it looked like we were leaving. We want to write. We are writers too. We have discovered ourselves.

And so did chicken succeed egg or vice-versa.

We had written plays, poems, stories, three-by-five cards, radio theater, criticism, book reviews, and the odd paragraph. We had been playing writing games together for years. We used computers. And so the collaboration of the Unknown, the game, came as naturally to us as to some Little Leaguers slipping on their mitts and heading out to the park to play base-

ball. There was no need to question whether we should be playing writing games: the point was to plunge in and have fun writing. HTML was mostly new to us: a little harder than a typewriter, and a little easier than Microsoft Word. What was unnatural? Why did the writing game last for far more than an afternoon?

Hypertext[1]

In June 1962, when producer George Martin first signed the Beatles, he was ambivalent about them. "I've got nothing to lose," he reasoned (Lewisohn 1988, 17). In their live audition there was little hint of the inventive chemistry they would later achieve in the recording studio. The Beatles started with a plagiarized sound. They were essentially a live R&B quartet, performing mostly unoriginal three-minute songs with verses, a chorus, and a middle eight, for drums, bass, two guitars, and two-to-four-part harmonies. They were cute and competent and sounded American and wore suits. They were commercially perfect, as if they had come in a can.

In the early 1960s Abbey Road was a two-track studio used essentially to capture live recordings without the noise of an audience. There were few ways to revise the live recording without literally cutting up the tape. In February 1963 ten of the songs on the Beatles' first album (*Please Please Me*) were recorded in the course of ten amazing hours. Later the Beatles could easily spend as much time working on a single unreleased song ('Not Guilty') as they did recording their first album. In October 1963 the Beatles first began to use four-track ('I Want to Hold Your Hand'). Four-track stimulated their imagination such that its freedom would soon become a limitation. They found new ways of using the machines to record more than four tracks. They rigged an eight track machine by synchronizing two 4 track machines ('A Day in the Life'). They removed erase heads from a tape deck allowing them to layer sounds indefinitely on a single piece of tape ('Tomorrow Never Knows'). In October 1964 the Beatles first used the recording studio to record an unfinished song ('Eight Days a Week'), listen to the recording, and finish the song based on what it sounded like on tape, and thus feedback between the collaborators and machines began to shape the composition process. In 1965 the Beatles, George Martin, and attendant engineers, began to tape their rehearsals, perhaps understanding that how they sounded on tape was more important than how they sounded in a room ('Ticket to Ride'). And they began

to make habitual use of the four-track. By August 1966 the Beatles had stopped performing for audiences and were learning that while the recording studio could capture their live sound without all the damn screaming, it could also capture the sounds and music nobody had thought of yet. A song could be more than a chord structure, it could be a soundscape of imagined timbres. There was so much that the technology was not designed to do, but nevertheless could. The Beatles, George Martin, a few dedicated engineers (notably Geoff Emerick, Ken Townsend, Chris Thomas), and countless largely uncredited session musicians (including Martin and Thomas) literally broke the rules of the staid Abbey Road studios, explored the potential and limitations of the machines, and made art.

An ordinary cassette has four tracks: left and right stereo channels for sides one and two. Multitracking is a process by which simultaneous, independent sounds can be recorded on to different tracks on one piece of tape. For example, with a four-track tape, you could record the drums and bass of a song on track one, while recording two guitars on track two. Then you could play back tracks one and two while adding lead and backing vocals to tracks three and four. You could then mix those four tracks onto two tracks of another four-track tape, losing some fidelity and rendering those four tracks no longer independently editable, but giving you two new tracks onto which you could add, for example, four French horns and the sound of an orchestra tuning up. This is how *Sgt. Pepper's Lonely Hearts Club Band* was recorded.

The Beatles discovered they could use multitracking to record forward, but also to record down. George Martin describes this process as painting a picture in sound with an infinite palette (Martin & Hornsby 1979, 141), and as adding layers to a cake (ibid., 149). Instead of simply recording a song straight through from beginning to end, the Beatles could work on the whole thing at once, by layering bits and pieces here and there. They got over the conservative idea that sounds had to be recorded at the speed at which they would be played back. They learned to speed up vocal tracks ('When I'm 64') or slow down instrumental tracks ('Rain') to create effects. They pushed it. Why not a guitar amplifier feeding back? (the Beatles introduced this rock cliche in October 1964 recording 'I Feel Fine') a sped-up electric piano solo? ('In My Life') or tape loops? ('Tomorrow Never Knows') Why not an orchestra wearing silly hats? a dog whistle? or twelve pianos (and a harmonium) all playing one majestic chord? ('A Day in the Life') What happens when one uses headphones as micro-

phones? ('A Day in the Life') loudpseakers as microphones? ('Paperback Writer') rotating speakers from Leslie organs as vocal amps? ('Tomorrow Never Knows') Can a guitar sound like a piano? What would singing sound like if sung while the singer were lying on his back ('Revolution I)'? swinging around the microphone on a rope ('Tomorrow Never Knows') or if recorded through a condenser microphone immersed in a jar of water? (one of the songs on *Sgt. Pepper's Lonely Hearts Club Band* was recorded this way, its title either forgotten or purposefully omitted from the record to conceal a flagrant and dangerous abuse of Abbey Road equipment) What kinds of distortion could be created by plugging an electric guitar directly into a recording console instead of recording its amplifier with a microphone? ('Revolution') overloading a microphone amp? ('I am the Walrus') or singing directly into the mixing board without using a microphone? (Martin and Emerick were unable to fulfill this impossible request) The Beatles were trying to think directly onto tape and their production team made it possible. Why not the smell of sawdust? ('Being for the Benefit of Mr. Kite') monks singing underground? guitars like seagulls? flanging? ('Tomorrow Never Knows') Why not a song that isn't even a song? ('Revolution 9') When the machines did something unexpected, the Beatles welcomed these accidents as new ideas (the alarm clock in 'A Day in the Life,' the placement and missing final note of 'Her Majesty,' the chance occurrence of *King Lear* when mixing the radio into 'I am the Walrus,' the rattling wine bottle on the speaker cabinet in 'Long Long Long', the edit one minute into 'Strawberry Fields Together', the segue between 'Good Morning' and 'Sgt. Pepper's Lonely Hearts Club Band (Reprise)'). Sometimes they even left important decisions to be made by accident, employing aleatoric methods such as the cut-up technique ('Being For the Benefit of Mr. Kite,' run-off groove of *Sgt. Pepper's Lonely Hearts Club Band*).

Beatles arrangements evolved from how their band sounded playing together in a room to how an imagined band (for example two bass guitars, lead guitar, electric piano, two drum kits, mellotron, eight violins, four cellos, a contra bass clarinet, three horns, a choir of 16 voices, a performance of *The Tragedy of King Lear*, and vocals ('I am the Walrus')) might sound playing together but all in different rooms, or even different universes. Sometimes one Beatle might record all the tracks himself ('Wild Honeypie'), occasionally they might play together as a rock band ('Sgt. Pepper Lonely Hearts Club Band (Reprise)'), but most songs used unique and

impractical ensembles (for example drums, bass, tambourine, organ, two guitars, honky-tonk piano, vocals, and about ten guys in white lab coats using pencils to feed tape loops through machines ('Tomorrow Never Knows')). If Sgt. Pepper's Lonely Hearts Club Band were a real band, it would need even more people than are pictured on the album cover. The Beatles recorded songs that couldn't be played live. You can't play a guitar backward on stage, it doesn't matter how good you are. They deviated from their instrumentation and genre as the machines imposed their potential and limitations on the music. They challenged the recording studio and challenged the record. Songs didn't have to be three minutes, they could be long ('A Day in the Life') or short ('Her Majesty'). *Sgt. Pepper's Lonely Hearts Club Band*, an album recorded without silences between the tracks, signaled a decisive shift in focus from the single to the "Long Playing" record album as their medium. Now they were composing song cycles. A song might now be written to complement its context ('Sgt. Pepper Reprise') or refer to other songs ('Glass Onion'). Like jigsaw puzzle pieces, a song could lack closure but add closure to the whole.

As the Beatles started out wanting to record traditional three-minute monaural pop songs for radio ('Love me Do') and ended up composing monstrous two-sided layer cakes (*Abbey Road*), *The Unknown* was a conventional idea subverted by an unexpected interaction with technology. In the beginning we wanted to write a book of criticism of our own writing. While it might be unusual for a trio of unknown writers to create a book of scholarly criticism about their own work, the idea of a book of literary criticism was neither original nor did it spring innocently from our artistic vision. Books of criticism are what professional scholars write: a default genre. As an accessory for the book of criticism we would first publish a book of our poetry and fiction: *The Unknown: An Anthology*. As a promotional gesture for the *Anthology*, we would write a hypertext. The hypertext, originally meant to be a bit of ad copy – at most a publicity stunt for the real "serious" print work – devoured the project. In a late revision of the *Anthology*, I added scenes from the hypertext to the collection of poems and stories. When the book of criticism appears, it will be as much about the hypertext as it is about the poetry and fiction in the *Anthology*. In this manner our interactions with machines – computers – and the art those interactions created – hypertext – changed the project we had set out to do into something unknown.

In June 1988 the Unknown agreed to write a hypertext together. Hypertext? We shrugged. We started writing. We found ourselves ready to

play baseball in a four-dimensional park. It was impossible even to tell which team we were on or which direction to run. But understand: we were there to have fun. It was Saturday. There was nothing but to start playing ball. So we played ball. And Christ was it a long game. It took two days just to find what we thought was first base. It was the edge of a tsunami breaking gracefully with the weight of a freight train. After being forced for so long to walk the narrow passageways of sequential fiction, trained as we were in the art of obsolete literary form, the accumulated weight of untried narrative technique swept us up. And we were cool. We had no idea how to play four-dimensional baseball but seldom had the handful of spectators that dotted the bleachers seen a team take the field with such big smiles. And so we played ball. Rather than try to impose the rules of baseball onto this four-dimensional park, we let the park impose its disorder on our game. And it quickly became too late to figure out the rules, or when the game was over. All we had was an infinite beginning. We had no idea how many innings there were, or when the season ended. We would either agree to put down the gloves and walk away or keep playing until we were desperately embittered with our teammates, since every time we made it to third base, and thought we were on the verge of scoring a run, we discovered that in the distance there was a fourth base, and a fifth base, and a sixth base, and if we ever made it back to the home plate we wouldn't even recognize it, it would just be another base. We were caught in a narrative tidal wave trying to swim. Any dilemma we created we had to write our way out of. Any problem in the text would be difficult to erase or extract, it could only be flooded with other writing. We treated accidents as intentions. Scott Rettberg says that the entire hypertext was "a mistake we decided to keep."

We forgot about the book of criticism. The Web became our canvas. If the purpose of HTML was to organize and clarify information then we would use it to disorganize and further complicate information. We played with links, and tried to subvert what little grammar they had. On the Web, the link did not have a standard meaning more explicit than "find out more about this word or phrase." Whatever a link meant wasn't supposed to pose a contradiction or nonsequitur. On the first night of writing, Scott wrote a scene with the phrase "Up in Conneticut, for that unforgettable barbeque with Thomas Pynchon and Don DeLillo, the details of which we have sworn never to reveal." (sic) ('east.htm') From that phrase I added a link to a scene revealing the details of the barbeque ('detailsofwhich.htm').

The link referring to inaccessible information was intended to instigate subversion. The rhythms and juxtapositions of footnotes, rebuttals, digressions, jump cuts, and commercial breaks found their way into our transitions.

It grew. Our complications developed complications. While our intentions at the outset may have been to write a single seamless collaboratively-authored narrative, the nature of the machines created seams. Authoring was channeled into writing individual scenes (HTML pages / nodes). We would sculpt these building blocks, sometimes one at a time, sometimes a sequence of blocks designed to be put together, and add links to and from them, and thus did the impossible architecture of the fiction evolve. The idea of sequence became exponentially more confused with each new scene. *The Unknown* stopped being a narrative sequence, and became instead a narrative sculpture. We were lifted from our familiar world of causality and working in dimensions we had never before perceived. We were composing fiction differently. Dirk describes the writing process as "like a jazz band with each member taking solos that referred to the previous riffs already laid down by whoever went before us." We started out faking a standard – a sort of chromatic 'Take Me out to the Ball Game' – but after a few rounds of solos we were no longer in a recognizable key and there was no way to end. We kept playing. The narrative grew branches. We clung to the idea of sequence, and scenes became very short, links on multiple interlocking chains ('milwaukee.htm'). We thought the branches of story might exist in the same narrative plane, describing a single coherent story universe, as with much of the sort of fiction we like in books. When this aspiration collapsed (were we approaching San Diego from the east? ('kansas.htm') or the north? ('sandiego.htm')) there was a sense of release. The last bridge to our understanding of sequential fiction was swept away in the tidalwave. Our compulsion toward closure dissipated, and that tree of branching narratives became an explosion of multiple trajectories, a haze of shrapnel. Each new scene would now take place not after or before but within. We were adding daubs of paint to a canvas, tiles to a mosaic, cutouts to a collage, layers to a cake, writing down. New scenes accumulated autonomy and began to function less as lead-ins to what they linked to ('tomorrow.htm') or commentary on what they linked from ('creative-writer.htm') and more as works that could stand on their own ('rhyme.htm'). Now, while thinking out from the center where the hypertext began, from the first scene we wrote, where the story actually begins

('unknown.htm') to its possible continuations; we were also thinking in from the world (literature) to the story. We began consciously to pay homage to our influences ('cortazar.htm'), to incorporate existing genres ('musical.htm') and styles ('spininterview.htm'). We brought the known into *The Unknown* as we decided that certain people, events, writing styles, and even texts – should become our own. Why not typing tests? ('typetest.htm') our students' essays? ('fivepara.htm') program notes? ('vienna.htm') The Unknown now became skilled in the art of saying much by saying little, attempting through concise scenes to evoke familiar worlds. Though discontinuous, *The Unknown* doesn't seek to disorient you, rather it seeks to orient you everywhere at once ('inorbit.htm'). Few of the individual scenes are baffling ('gospel1.htm'); it might not be clear which diagetic level they take place on, or when they happened in the story, or who is narrating them, but it is clearly science fiction ('inorbit.htm') or ecstatic ('dirkspirit.htm') or about Beckett ('unnamable.htm') or the desert ('texas.htm'). Like jigsaw puzzle pieces that don't really fit together, Unknown scenes had closure but made problematic the closure of the whole.

As links accumulated to and from newly added writing, scenes written earlier became more heavily linked to. New scenes were hardest to find. We wrote several endings ('eighties.htm', 'theend.htm', 'laparty.htm'), but the more developments we added, the more reading paths led inexorably back to the center: the first chapters we wrote. We tried to think of a way to offer the reader explicit reading paths that went against this current. Web design standards dictated that we needed a universal means of navigation, and thus were created indexes in which diagetic levels were arranged according to a color scheme translated by Scott Rettberg from the Chicago Transit Authority subway map. In ascending order of verisimilitude the subway lines of *The Unknown* are Brown for Art ('brownline.htm'), Red for Fiction ('redline.htm'), Purple for Metafiction ('purpleline.htm'), Blue for Documentary ('blueline.htm'), Orange for Correspondence ('orangeline.htm'), and Green for our (real) Live Appearances ('greenline.htm'). From this point on, we knew when writing a scene that it would fall into one of those categories. This taxonomy was based on the writing our exploration of the technology had generated, and further exploration took place mostly along the lines of this indexing scheme. In these indexes we arranged the scenes' title tags in alphabetic order by filename. And thus we created navigation that neither clarifies nor facilitates a clean overview of the contents. *The Unknown* has a search engine but you have to read to find it.

As an authoring tool for fiction, typewriters are designed to capture a take of a story, from beginning to end. The technology does not facilitate revision (changing the text once typed). Electronic writing allows limitless overdubbing and in this manner enables more types of collaborative writing. Revising *The Unknown* took place live on the Web (indeed, much of the revision happened after it had already won an international award (in a tie with Geniwait). Being edited during its publication, *The Unknown* was a sort of rooftop concert. When traveling and writing together we would try to make use of our immediate surroundings ('dac1999a.htm') the way a studio recording might try to capture the acoustics of a particular room. Because most scenes were written spontaneously, because much was written on location, and because we excised very little of *The Unknown*, it was important that the first take be strong. We emailed writing to each other. We visited each other in our respective cities ('cinti1.htm'). We devised ways to work around the limitations on collaboration posed by the ordinary one-person computer keyboard. We took turns writing ('ditch-scott. htm'). We wrote responses to one another ('algren.htm'). We included email exchanges ('000912.htm') and chat room transcripts ('chattrans.htm'). We wrote to the Web using as authoring tools portable cassette recorders ('inthecar. htm'), notebooks ('brownread15. htm'), postcards ('postcards/1.html'), water colors ('katie/diary.htm'), hotel stationery ('plimpton.html'), and radio stations ('altxinterview.html'). We abused the equipment: we took portable computers to bars and passed them around ('nicknjoe.htm'). We used our friends as characters ('bleakley. htm') and as largely uncredited session musicians ('unknownclub. htm'). As the Beatles traded instruments and each sang lead vocal on every album, the Unknown would write in each other's styles and from each other's point of view ('laauster3.htm'). As the Beatles raided the sound effects cabinets at Abbey Road, and began using scraps of their own outtakes in their albums, the Unknown plundered our own computers for autobiographical fragments: book reviews ('readgaddis. htm'), new year's resolutions ('newyears96.htm'), letters we had sent each other long before we became our own fictional characters ('aug1496.htm'). *The Unknown*'s weird conflation of fiction and autobiography got weirder. Through simple multimedia it was possible to add recordings and pictures to our work. In this manner we could write a fictional scene about a live reading, record a live reading of the fictional scene, and add the live audio back to the scene. As we began to see how this collision of reality and

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fantasy was adding up to *The Unknown*, we worked with the material of reality and fantasy to facilitate it. The fantasies became more fantastic, and the reality followed, until we were at Brown University using a digital auditorium to perform a scene I had written, entirely satirically, about giving a reading at Brown University in a digital auditorium ('brownu.htm'). After Brown we added to the scene written before Brown the cassette recording from Brown. Paul Auster has a character called "Paul Auster"? Well move over, here's three guys writing fiction about three guys with the same names as them, and there is a recording of them reading fiction about themselves reading fiction at Brown at Brown. Instead of two Paul Austers, we've got four Dirk, Frank, Scott, and Williams. They write half as well but there are eight times as many of them. And the thing is, two of those four facsimiles are real, the ones who were credited with authorship whose ludicrous biographies appear somewhere in the fiction, and the ones whose voices you hear reading the fiction about reading fiction at Brown at Brown wearing suits. But this replication was not wholly motivated by canny postmodern strategy. Although Brown has yet to stock their bookstores with big color posters of us, that fiction about going to Brown was a joke that came true. Be careful what you joke about. We thought hypertext was funny; we didn't know how serious it could be.

With regard to the nature of the technology there is no real cause for comparison between the Beatles and the Unknown. While both groups engaged machines with a playful spirit, attentive to unintended effects, the Beatles worked long hours in laboratory conditions (right down to the lab coats worn by Abbey Road engineers) while the Unknown wrote on the fly in hotel rooms ('fbifiles. htm'), at work ('kendralet. htm'), in the back seats of moving cars ('dac1999c.htm'), and on cocktail napkins at bars ('dec1994.htm'). The Beatles had professional recording equipment and access to any musical instrument of the time. The Unknown had an HP Jornada, an LG Phenom, a Kodak F300, an IAWA portable cassette recorder, and various ordinary computers. The Beatles were paid, as was a production team who could scarcely be improved upon. The Unknown were not paid for *The Unknown*, nor was our manager Marla ('marla.htm'). The Beatles could call upon virtuosic instrumentalists at will and were seemingly under little pressure to deal with them in a professional manner. The Unknown didn't even get an orchestra in funny hats. We mostly kept day jobs. The Beatles had everything they needed in order to create their best work, with the possible exception of privacy. The Un-

known were unknown. We had privacy. We could go to restaurants or ride buses or write in public without being accosted by screaming fans. We still can. But the Beatles and the Unknown pushed the machines. Technical limitations, like all constraints, force ingenuity. State-of-the-art four-track equipment in 1966 wasn't quite enough to produce *Sgt. Pepper's Lonely Hearts Club Band*. In September 1968 the Beatles liberated an unused Abbey Road eight-track machine from storage where it was awaiting minor technical adjustments. Nowadays, recording studios can offer well over a hundred tracks, as many as can conceivably be used. *The Unknown* was meant to be a hypertext novel, and writing was almost all that our machines, programming skills, and bandwidth allowed in 1998. Would *Sgt. Pepper's Lonely Hearts Club Band* be a better album if it had been recorded with twenty-four-track technology? George Martin thinks it might have been, but Geoff Emerick unequivocally disagrees: "We were put on the spot, and that was the sound you made at the moment; you had to put the right echo on, the right EQ, the vocal had to be right. It made things easier in a way, because otherwise there are too many variables, and what's the point? Where do you go?

Salsa, Machines and Friendships: The Spineless Cybertext Studios

The Spineless Books Cybertext Studio is located in the mountains near Las Vegas, New Mexico. The high desert climate is temperate, dry and silent save for the occasional thrashing of a blue jay. Flowers and a sugar-water mixture attract butterflies and hummingbirds to the A-frame cottage with the networked production equipment (computers, printers, a tabloid-sized flatbed scanner, digital cameras, recording equipment, and a thermal binding machine) on the second floor. There are 1700 square feet of interior space (2000 square feet exterior) and it is still in need of some finish work. A large indoor planter reuses greywater and grows food and herbs year-round. At night the skies are lit up like a celestial Times Square, and UFO sightings are not uncommon. At first, when visiting writers step out of the car after the hour and a half drive from the Albuquerque airport, glance around the mountainside uncertainly, and ask to check their email, they discover that our only internet connection is a slow dialup, and sometimes become visibly skeptical. But our computers are in order, if off the grid, and

To me, that's why there's no great product today." (Massey 2000, 79)

Regardless, part of the beauty of *Sgt. Pepper's Lonely Hearts Club Band* is how well it captures its moment in history: the summer of love, the drugs, the utopian yearning, and the machines.

George Martin's contribution to the music of the Beatles cannot be overestimated. He produced almost every song, played various instruments including piano ('In My Life') and harmonium ('Being for the Benefit of Mr. Kite'), scored almost all the difficult instrumental arrangements ('I am the Walrus'), worked late hours, and even made it possible for Lennon and McCartney to co-author albums when the songwriting duo weren't speaking (*The Beatles*). John Lennon would make surreal requests and George Martin would invent the technical means to fulfill them. Paul McCartney would sing the melodies he wanted the string and horn players to play, and George would transcribe them, "writing the dots" on to staff paper for the musicians. George Martin and Geoff Emerick showed a willingness to overlook the rules of the staid Abbey Road studios to devise unconventional production techniques that in many cases would constitute abuse of the equipment. During the recording of 'A Day in the Life,' 40 classically-trained musi-

we have come to believe that the advantages of isolation outweigh those of being wired to the distractions of the internet.

Members of the Spineless production team take on different combinations of roles as circumstances warrant. These are people who are nice to work with, and good at making the machines accommodate the desires and temperament of the artists. They like to try new things and develop methods of using the machines that are unique to each visiting artist. William's role is to facilitate literature by creating circumstances in which the writers can give their best performances. This frequently involves cooking dinner, and his stance on cilantro is unequivocal. Our designer Ingrid works with the visiting artists to perfect their interface (print or screen). She specializes in the nuances of Photoshop, Quark, and Indesign, as well as painting, etching, and printmaking. Our sound engineer Paul has built a soundproof booth for recording, although he prefers to set up the microphones outdoors to capture audio with the resonance of mountainside. He is fond of his reel-to-reel fourtrack machine, and sometimes uses it to capture the audio before transferring it to the digital studio to manipulate using Soundforge and other digital sound editing and multitracking tools. Yes we have a piano,

cians were brought in to record the orchestral buildup (overdubbed four times for a total of 160 on the finished recording). George Martin recalls the evening: "The Beatles asked me, and the musicians, to wear full evening dress, which we did. I left the studio at one point and came back to find one of the musicians, David McCallum, wearing a red clown's nose and Erich Gruenberg, leader of the violins, wearing a gorilla's paw on his bow hand. Everyone was wearing funny hats and carnival novelties. I just fell around laughing! ...When we'd finished doing the orchestral bit one part of me said 'We're being a bit self-indulgent here'. The other part of me said 'It's bloody *marvellous!*'" (Lewisohn 1988, 96–97) The incident is a wonderful illustration of what might happen in a collaborative cybertext studio. I dream of such a studio and its engineers. What kinds of skills or disposition might a cybertext engineer need in order to facilitate feedback between collaborators and machines? How might a cybertext producer coax the best possible performances from the writers? What sort of equipment might a cybertext studio have? What tools might enable collaborative writing? Are there no computers built for two?

and the tuner makes it up from Taos once a year. We have no theramin yet, but a baritone ukelele and a versatile assortment of guitars and keyboard instruments. We have also been offered a Wurlitzer Funmaker Organ, though it is not yet clear how we will get it up the mountain. We sometimes fall back on oblique strategies. It (usually) goes without saying that William, Paul and Ingrid are all writers as well, and are ready to jump in to the text when appropriate. Some of our visiting writers more memorable lines may actually have been written by our staff, but we'll never tell.

It sometimes inspires skepticism among computer purists that much of the material incorporated into our cybertexts is hand-painted, performed on acoustic instruments, or even typewritten, but we welcome such skepticism. Our art is content-driven, and our projects welcome collaborators whose primary "axe" is not a workstation. Our cybertext productions tend to have a print component as well as an electronic component, and we draw on artistic traditions as diverse as architecture and printmaking (we do not, however, have a sculpture studio on site). The point is not computers, the point is whatever we are working on at the time. And hummingbirds, butterflies, yucca, Indian paintbrush, juniper, and piñon.

NOTES

1.   I use the word "hypertext" to denote multisequential writing. The use of image, sound, movement, or sophisticated interfaces, is not ruled out but not what I mean by "hypertext." I mean text. But I am not talking about a single discontinuous text. I am speaking of any text, print or electronic, that either has explicit multiple reading paths or no default reading path. This includes a dictionary but not *To the Lighthouse*. This includes the *New York Times* but not "The Babysitter." *The New York Times* does not explicitly structure multiple reading paths, but neither does it facilitate a default reading path, the implied (and usual) reader behavior is to scan headlines in some sections but not others, and not to read from beginning to end straight through from A1 to H12. I like hypertext though I do not particularly like the word – I don't see how a word like that can ever become a household word, and the fact that it has the word "hype" in it doesn't do much for its credibility as a literature. Incidentally, my "hypertext" does not include footnotes. I concede that the cognitive action of a footnote can be similar to that of a link, but footnotes are a convention of linear text, and the multiple pathways they offer are cul-de-sacs, subordinate to the thoroughfare of the main text as often indicated by a smaller typeface. A footnote makes it appear as though you have a choice of reading paths but in actuality your choice is whether or not even to read the footnote. Unless you break away from the main text in the middle to read the footnote and then stop.

The end.

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