

All Together Now: Collective Knowledge, Collective Narratives, and Architectures of Participation

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ABSTRACT

This essay is an exploration of the history and methodologies of collective narrative projects, and their relationship to collective knowledge projects and methodologies. By examining different forms of conscious, contributory, and unwitting participation, the essay attempts to develop a richer understanding of successful large-scale collaborative projects. The essay then examines large-scale architectures of participation in Wikipedia and Flickr to extrapolate from those observations potential methodologies for the creation of collective narratives.

Keywords

Collective, social, systems, literary, collaboration, hypertext, constructive, constraints, writing, process, architecture, participation, narrative, literature

1. Social Systems

When we are with others, we are always something other than what we are when we are alone. In the phenomenological approach he describes in *Being and Time*, Heidegger distinguishes between Da-sein, being in the world, and Mitda-sein, the state of being-together-in-the-world [18]. In discussing how we arrive at consensus, Habermas writes of “linguistically generated intersubjectivity,” the use of language to create a subject that is not the self, but subjectivity shared with others [16]. Luhmann, in *Social Systems*, argues that people are not society, but parts of its environment [16]. Society functions as a system in its own right. Luhmann’s distinction is important to consider in a network context: whenever people are collaborating on a project of knowledge sharing or creative production, they are collaborating not only with other people, but with a system which they, the other participants, and the communicative environment help to create. In networked computer environments in particular, collaboration is always both collaboration with other people and with systems. Processes are co-creators of collective knowledge. Any collaboration is the product both of its authors and the social system their collaboration creates.

2. Collaboration and Literary Culture

Printed books are almost always products of collaboration, not necessarily in the sense of multiple authors writing together, but in the less-considered sense of multiple people working together to produce an edited, designed, bound, printed, and distributed artifact. Yet literary culture operates in a manner that makes the contributions of those involved in the production and distribution of books, other than the author, less visible. Asked to name their favorite authors, almost any reader could rattle off a list of writers. Ask same readers who their favorite book designer, typesetter, or editor is, and you’re likely to draw a blank stare. As Rob Wittig

suggests in *Invisible Rendezvous*, [37] there are historical reasons for the rise of the author, which can be boiled down to accountability, marketing, information management, combating piracy, and the “genius model” that explains quality writing as the product of extraordinary minds. The myth of the solitary author, toiling in isolation on the great work, is largely a convenience to simplify the complex collaboration involved in making and distributing books; the idea of authorship is driven more fundamentally by legal and market concerns than by artistic ones.

In the domain of electronic literature, the collaborative effort involved in creating, publishing and distributing works is more clearly evident, if only because there is effectively no electronic literature publishing industry. The roles of contributors such as designers, artists, and editors are typically more clearly acknowledged because without assistance, authors are compelled to do everything by themselves. There are few traditional publishers of electronic literature, so there is no apparatus in place to keep the labor of producing and distributing the work invisible.

If, for the past few centuries, literary culture has centered on the cult of authorship, collectively written works of literature are not unknown in literary studies. Both the Judeo-Christian Bible and the works of Homer, for instance, could be considered as collective texts. The writing of the Old and New Testaments took place over about two thousand years and involved at least forty different writers, some of whom were adapting elements of an oral tradition. The processes of editing, canonizing, and translating the Bible are also collective endeavors, which will likely continue to be practiced by different sects for the foreseeable future. And while we assign the “authorship” of the *Iliad* and the *Odyssey* to one figure, “Homer,” almost nothing is definitely known about Homer as a historical figure. Someone living between the 12th and 8th Century B.C. gathered, synthesized and wrote down pieces of an oral tradition of poetry originally passed from generation to generation. While the individual or group who aggregated, edited, and inscribed the *Odyssey* was instrumental in the fact that we are now able to translate, read and enjoy the epic today, Homer is best understood not as an author of the solitary genius model, but as a function in a social system of collective authorship.

3. Hypertext and Collective Knowledge

The idea of hypertext itself is based to some extent on harnessing collective knowledge. From the moment the idea of associative linking was conceptualized, hypertext has been associated with collective knowledge. Even the Memex, the stand-alone device imagined by Vannevar Bush in his 1946 essay “As We May Think,” was based on the idea of making collective knowledge available to individuals in new associative ways. The operator of the Memex would record the trails of associations he constructed

over the course of his research. These trails would then become the foundation of further research by others. Bush envisioned “a new profession of trailblazers, those who find delight in the task of establishing useful trails through the enormous mass of the common record.” Although Bush imagined a device based on microfilm, rather than computers, we might usefully think of the Wikipedia as one example of the “new forms of encyclopedias” Bush envisioned, “with a mesh of associative trails running through them” [9].

Ted Nelson, who coined and conceptualized the term “hypertext,” conceptualized Xanadu, his vision of an ideal hypertext system. Nelson describes a hypertext system based on the idea that each field has a “literature,” a “*system of interconnected writings*,” persistent but open to constant expansion:

In our Western cultural tradition, writings in principle remain continuously available—both as recently quoted, and in their inviolable incarnations—in a great precession. [28]

Nelson asserts that individual researchers always have their own thought-trail of associative links through a given body of material. He notes that a field’s collective view of its own past is furthermore subject to constant reinterpretation. Nelson bases the file system of Xanadu on the idea that an ideal literature would both remain continuously accessible and that any given item could be linked to any other item in the database according to any criteria.

Nelson considers the absent link, the lacuna, to be as important as those already forged:

Within bodies of writing, everywhere, there are linkages we tend not to see. The individual document, at hand, is what we deal with; we do not see the total linked collection of them all at once. But they are there, the documents not present as well as those that are, and the grand cat’s cradle among them all. [28]

Nelson emphasized the importance of the ability to introduce new material, and of new methods of organizing material that could coexist simultaneously with extant systems. Xanadu would not only preserve existing connections between bodies of writing, it would allow for new ways of connecting the material according to the values of future readers.

One limitation of the system Nelson imagined was that the core technologies would remain centralized. The most successful hypertext systems since, including the World Wide Web itself, have been based on extensibility, the ability to adapt to and integrate both new technologies and new systems of organizing material. We experience the web not as a unified hierarchy of organized information, but as a collective pool of knowledge, which we can access, view, and reorganize in a variety of ways.

4. Constructive Hypertext

In considering not merely organized aggregations of collective knowledge, but in particular collective narratives, it is useful to consider the distinction that hypertext author Michael Joyce made between “exploratory” and “constructive” hypertexts.

Scriptors use constructive hypertexts to develop a body of information which they map according to their needs, their interests, and the transformations they discover as they invent, gather, and act upon that information. Moreso than

with exploratory hypertexts, constructive hypertexts require a capability to act: to create, to change, and to recover particular encounters within the developing body of knowledge. [21]

What Joyce terms “exploratory” hypertexts are more in line with the idea of finished “works” we are familiar with from book culture. Exploratory hypertexts are stable editions. The work itself is understood as a separate entity from the reader’s interaction with it. Thus, in the hypertext system Joyce discusses, the reader may explore, mark, and make annotations to an exploratory hypertext, but in doing so the reader is not modifying the work itself. In a constructive hypertext, neither the structure of the work nor its contents are yet fixed. All exploratory hypertexts were first constructive hypertexts. The pleasure of a constructive hypertext is not received narrative, but the process of constructing a narrative topology. Constructive hypertexts can be individually written, in which case the author/reader is interacting with her own creation, or written collectively, in which case a community of reader/writers are actively interacting with, forging connections, expanding upon, and reacting to the work of others. A constructive hypertext can then be as productively understood as a participatory writing performance, an “event” as well as a “work.”

Both constructive and exploratory forms of hypertext literature have been written and published, though there are considerably more notable examples of exploratory hypertext literature published in both Storyspace and web formats than there are of constructive literary hypertext.

5. Types of Constructive Collaborations

Most classic Storyspace hypertexts including Joyce’s *afternoon, a story* [20] and Shelley Jackson’s *Patchwork Girl* [19] are purely exploratory. Deena Larsen’s *Marble Springs* [22], the story of the people of a Colorado mining town, enabled readers to contribute to the story by adding scenes and character biographies to the work’s HyperCard stacks. While published as an exploratory work, Cathy Marshall and Judy Malloy’s *Forward Anywhere* [24] wore its constructiveness on its sleeve more explicitly than other early hypertexts, by virtue of the self-conscious collaborative process through which it was written.

Many hypertext narratives on the web are exploratory, an author presenting a finished “work,” typically within a similar apparatus to that of a print publication, for instance as an article in an online new media journal such as *frAme*, *Beehive*, *ebr*, or the *Iowa Review Web*. During the first stages of its evolution, the web retained many aspects of print culture, including the terminology used to describe web “pages,” web “publishing,” and web “journals.” It was not uncommon in the Web’s early years to hear it described as “the biggest thing since Gutenberg” to happen to the written word. Beyond its initial promise as a widely accessible, inexpensive, and global publishing platform, however, the web has also retained the initial promise of hypertext to change the nature of the reader’s interaction with the writing and reading of texts. The web is not simply a global library of individual texts, but offers the potential for new types of collective authorship.

Early experiments in collective narrative on the web included “chain stories,” in which participant readers would build upon the contributions of previous authors in order to further develop a sequential narrative. Even concepts as rudimentary as “The

World's First Collaborative Sentence," [8] to which readers were encouraged to contribute a phrase, flirted with the promise of literature authored by no single person, but by the collective effort of many people. Roberto Simanowski has described "Beim Bäcker," a German chain story initiated by Carola Heine in 1996. Heine began the story with the introduction of a woman buying lollipops for three girls short on change in a bakery. A male contributor then responded to the first section. He wrote from a different perspective and changed the character in a way that the first author did not appreciate. The initial author then responded in the next section, attempting to correct the second author's contribution while integrating it into her portrayal. Other authors who introduced further characters with their own trajectories then continued the experiment. Simanowski describes this type of collaborative writing in terms of confrontation. The principle limitation of a linear collaborative narrative of this sort is that it relies on an intimate and successful relationship between any given chapter and those that precede it. Putting voice and style aside, the success of the story depends on continuity and causality, and on implicit contracts between the various contributing writers to respect the ontology presented in the early chapters in producing the later chapters. Simanowski reports that this lack of agreement caused problems for the project, "In the end, we realize that a new author hardly takes into account the legacy left by his predecessors" [33]. Without any explicit agreements between authors or editorial oversight, chain stories often succumb to incoherence.

Robert Coover's early electronic writing workshops at Brown University experimented with a collective constructive hypertext, the *Hypertext Hotel*. Loosely based on George Perec's *Life, a User's Manual* [30], the hotel offered a spatial metaphor for a collaborative writing event:

In addition to the individual fictions, which are more or less protected from tampering in the old proprietary way, we in the workshop have also played freely and often quite anarchically in a group fiction space called "Hotel." Here, writers are free to check in, to open up new rooms, new corridors, new intrigues, to unlink texts or create new links, to intrude upon or subvert the texts of others, to alter plot trajectories, manipulate time and space, to engage in dialogue through invented characters, then kill off one another's characters or even to sabotage the hotel's plumbing. [12]

As Coover described it, the *Hypertext Hotel* was never a fixed edition, not a work, but a writing process of subversion and play. Although some fragments of the *Hypertext Hotel* can be found online [13], if one were to assess the hotel as a finished work, one would find it in disrepair. The *Hypertext Hotel* was always a writing event, anarchic in nature, never intended to conclude.

The relatively early hypertext experiment (1993-1996) of the Hypertext Hotel was similar in structure to the type of collective storytelling employed in MOOs and MUDs, in that its primary organizing principle was the description of imaginary spaces. In these virtual environments, setting exists on a different diegetic level from plot and character. While rooms and objects can possess both descriptions and behaviors, MUDs exist only as potential narrative until fulfilled by participant readers. The players become architects of their own rooms within a MOO, contributing to a collective textual geography. While a great deal goes into the writing of descriptions of rooms, objects, and personal descriptions in MOOs and MUDs, at least one and

preferably several player characters are necessary in order for the potential narrative to become narrative. The unfolding interactions between the characters are typically what would be retold as a "stories" from the MOO. There are examples of MOOs built with "story-disclosing objects" [23] and even time-based dramas that unfold as the reader enters a particular room, but the majority of the collaborative storytelling involved is either descriptive or takes place in the course of an active interaction with another character. Like a work of interactive fiction, a MOO is only a potential story until readers respond to and perform within the text. Unlike most interactive fiction, MOOs are typically cosmopolitan in the sense that the architecture of the virtual space is written collectively, and the dialogue is primarily dependent on multiple human intelligences interacting simultaneously in the same textual space.

Different ideas of coherence apply in constructive writing environments than in fixed narratives. When a writer participates in a MOO, "play" takes precedence over "work." Narrative emerges from the interaction of writer/characters with each other in an environment structured for that purpose. Insofar as writing events in MOOs constitute collective narratives, they are narratives written in the present, for a participatory audience, with the intention of provoking a response from readers who are also writing in the same space.

6. Writing Process of *The Unknown*

Like the *Hypertext Hotel* or a MOO, the collaborative hypertext novel *The Unknown* [15] was, for a period of about four years (1998-2002) a constructive hypertext undergoing expansion and revision. New episodes being added to the work, links were added and removed, and the general structure of the hypertext changed. *The Unknown* was written primarily by William Gillespie, Dirk Stratton and myself, though about a dozen other writers and artists played some hand in its construction. *The Unknown* was not a completely open collective narrative, but the product of ongoing and shifting relationships between authors who knew each other fairly well.

We began with a general scenario (we would write a satirical hypertext about a book tour), but beyond that there was little conscious agreement about how the plot(s) might proceed, how the characters might develop, the general themes of the work, or how the work was to be structured. There was nonetheless a certain general social contract in effect: if we agreed to nothing else, we agreed to read the scenes that the others had written, to link to and from them when appropriate, and to allow those previously written scenes to provide a context for the scenes that we would subsequently write. That is not to say that we determined chronological relationships between given scenes; early in the process of writing *The Unknown*, we abandoned the idea of establishing precise chronological relationships between all the scenes in the novel. We structured the story in terms of geographical space more than in terms of chronology: the character of the place where a thing happened was given more importance than when it happened. The scenes are linked by recurring motifs and tropes rather than by sequence.

Because it was an extensively multiline hypertext novel with many associative links through different scenes, we realized early in the writing process that the novel couldn't be dependent on any type of traditional narrative arc or sense of closure. The majority of our readers would read only fragments of the hypertext, and

those fragments would have to function individually. We began talking about *The Unknown* as a picaresque, scattered across a vast territory of time and space. This allowed us some degree of flexibility in terms of the ontological continuity of the story. Certain tropes, character tics, and obsessions recur across scenes and serve as a kind of connective tissue, but the characters of *The Unknown* could not be said to “develop” in the traditional sense. There are plenty of character developments in many different scenes, but they don’t follow an overall arc toward epiphany or catharsis.

During the bulk of the time that *The Unknown* was being written, play took the place of explicit agreement between the authors on the directions in which the multivalent work would proceed. Because the characters of the hypertext were eponymous with the authors, the writing got personal, albeit in a playful way. As in a MOO, the collaborative writing process of *The Unknown* was oriented towards play in the present moment and towards provoking a response from the other participant authors. The writing process became a kind of elaborate version of the dozens, each of us taking control of the others’ characters and putting them into increasingly absurd situations, and then challenging the author to extricate his doppelgänger from whatever unpleasantness his cohort had concocted for it. I woke one morning to find that the character named “Scott Rettberg” had become a heroin addict, Dirk Stratton opened his web browser to find that he had become a suspect cult leader, William Gillespie discovered that the character with his name had suffered from an unfortunate bungie-jumping accident. Unlike a MOO however, the play of writing in the present moment was heuristic, conducted not for its own sake, but in order to arrive at a “finished” scene.

As we were writing *The Unknown*, we experimented with a wide variety of collaborative writing processes, ranging from in-person get-togethers where we would literally take turns at the keyboard, to collective expeditions, when we would haul a laptop to a location and write a scene set there. Occasionally we would invite others, friends and traveling companions, to sit in for a session or two. In addition to this form of “live” collaboration, we also wrote scenes and some linear sequences individually.

To the extent that *The Unknown* succeeded as an experiment in writing a collaborative hypertext novel, its success was dependent on the fellowship of its authors. While we had very few explicit agreements, along the way we had many conversations about the general direction of the project and the structure of the resulting “work.” While *The Unknown* was certainly a writing event, a kind of performance, it was also always intended to result in an end product. *The Unknown* is an example of a type of collaboration directed by play, negotiation, confrontation, and compromise. Its authors understood each other both as people and as writers. Without these pre-existing relationships and ongoing negotiations about the shape of the story, the project would neither have come to pass nor to completion.

While the hypertext novel itself is expansive, the personalities involved were known to each other, and for that reason we were able to make up the rules of collaboration as we went along. Collective narrative projects in which the majority of contributors do not know each other pose different challenges than comparatively small-scale collaborations such as *The Unknown*.

7. The Use of Constraints

Successful collaboration is always built upon constraints, whether the creators of the collective work explicitly agree upon the constraints or they are simply built into the system used to create the work. Unlike individually authored works, collaboratively authored works are both the work itself and the series of negotiations between subjects that govern the work’s creation.

Harry Mathews addresses the question of why one would want to write under constraints in his *ebr* essay, “Translation and the Oulipo: The Case of the Persevering Maltese”:

The Oulipo supplies writers with hard games to play. They are adult games insofar as children cannot play most of them; otherwise they bring us back to a familiar home ground of our childhood. Like Capture the Flag, the games have demanding rules that we must never forget (well, hardly ever), and these rules are moreover active ones: satisfying them keeps us too busy to worry about being reasonable. Of course our object of desire, like the flag to be captured, remains present to us. Thanks to the impossible rules, we find ourselves doing and saying things we would never have imagined otherwise, things that often turn out to be exactly what we need to reach our goal. [26]

The forms of constrained literature range from the very complex, for example the constraint to “write a 2002 word story that is also a letter palindrome,” followed by Nick Montfort and William Gillespie in producing their *2002* [14], or “write a novel without using the letter E,” followed by Georges Perec in his *A Void* [31], to the more mundane, such as “write only interior descriptions,” or “write episodes no longer than 500 words in length.” Even Mad Libs, those juvenile writing games wherein the reader is enlisted to contribute random adjectives, proper nouns, names of places, types of animal, etc. before reading the resulting zany story, are a rudimentary form of constrained literature. In essence, a constraint is simply a rule that a participating writer agrees to follow in the process of producing writing. The constraint itself need not be evident to the reader; indeed it is typically not revealed. The overall architecture into which a piece of constrained writing might fit also needn’t be evident to the contributing writer.

Literary critics in the structuralist camp have long insisted that there are deep structures to story, and that any story can be discussed in terms of those structures and shared elements. In his *Morphology of a Folk Tale*, an analysis of Russian folk tales, Vladimir Propp maintains that that they can all be classified according to thirty-one narrative functions fulfilled by seven types of dramatis personae [32]. Regardless of how one feels about the application of structuralist theory to works of literature generally, structuralist ways of thinking can be quite useful in the context of developing a collective storytelling system, or for that matter a storytelling “engine” of any kind. In designing the interactive drama *Façade*, for instance, Michael Mateas and Andrew Stern designed the engine to track an Aristotelian dramatic arc, based on a system of “beats” described in Robert McKee’s screenwriting guide, *Story: Substance, Structure, Style, and the Principles of Screenwriting* [25].

If truly collective web narratives, open to contributions from anyone on the network, are to be successful as stories, they either need to be edited and structured by some subset of the contributors, or need to be structured by the system used to create the work. The larger the scale of the collaboration, the more

important it is that contributors' roles in the writing of the project are clearly defined, as are the constraints under which individual contributions should be written.

Some collaborative electronic writing projects are essentially nothing but constraints. The site resulting from such a project is essentially an aggregation of examples of that particular constraint. The "Noon Quilt" produced by the trAce Online Writing Community, during five months in 1998-1999, is one such project [2]. The project asked its contributors to look out their window and record what they saw at mid-day. The project resulted in two quilts – web pages with a quilt format, featuring animated patches, each of which leads to a fragment of story. The result is not a coherent narrative, but a pastiche of a more than two hundred vignettes. The project was successful in inspiring collective writing activity, including contributions from writers all over the world, and in providing a window into the offline worlds of a writing community typically connected only in virtual space.

8. Writing Process on a Large Scale Collective Narrative: *Invisible Seattle*

One of the most successful experiments in collective narrative took place well before the widespread adoption of the internet. *Invisible Seattle* [37] was a writing group first formed in 1979, which regularly gathered in the basement of Eliot Bay bookstore to present its members with a variety of collaborative, psychogeographic, and Oulipian writing games. The group's first project was the *Map of Invisible Seattle*, a project loosely based on Italo Calvino's *Invisible Cities* [10]. The project's intention was to recreate the city of Seattle, substituting draconian modernist structures with "architectural visitors," and imaginary spaces, for instance replacing the Space Needle with the Eiffel Tower, and the Kingdome with the Coliseum of Rome.

During the summer of 1983, the invisibles launched a multifaceted data-gathering project throughout the city of Seattle, the goal of which was to produce a novel authored by the city itself. The methodologies employed in the construction of *Invisible Seattle* are useful to consider as we contemplate contemporary network-based collective narratives. Different strategies were deployed to collect writing for the collaborative novel including "roving safaris" conducted by "literary workers" who would roam the city with questionnaires asking questions of passersby. Other ways the group gathered material included mad-lib style fill-in-the-blanks; clip-out-and-return coupons distributed in *The Daily Zeitgeist* encouraging readers to contribute photos along with descriptions of settings, and even soliciting major plot developments; data (such as overheard conversations and descriptions of quotidian life) gathered via a call-in show of a local radio-show; and finally by having anonymous participants type segments of narrative into a fantastical word-processor "Sheherazade II -- the first of a new generation of literary computers," at Bumbershoot, a Seattle arts festival.

The novel experiment of *Invisible Seattle* involved thirty active 'literary workers' who spent a summer combing Seattle "in search of novelistic fodder." The project captured the imagination of the city, and was covered in national print media and local radio and television. The project's climactic writing event at Bumbershoot featured the Mayor, Charles Royer, throwing out the first word.

The writing process of *Invisible Seattle* was idiosyncratic, simultaneously systematic and anti-systematic. Some of the

writing methodologies were highly structured, such as a set of seventeen instructions intended to elicit a thorough description of exterior and interior settings (56), while others elicited anonymous one-line suggestions for major plot turns in the novel such as "What happened to Proteus?" (the main character of the novel) and "What was Proteus' mission in Seattle?" The architects of *Invisible Seattle* were inviting both macro and micro-level input. It's relevant that even before the project involved a computer of any kind, the invisibles had "begun calling text 'data' and spoke of gathering contributions in 'data files'" (69). In the process of assembling a collective narrative, the invisibles thought of themselves less as authors than as functions of an enormous text-machine.

After this summer of engaging Seattle writ large in a variety of constrained writing assignments, the invisibles found their larders stocked with more storytelling material than one novel could possibly contain. A group of invisibles culled and remixed several different versions of the material into versions of a novel. The most widely distributed version, *Invisible Seattle: The Novel of Seattle by Seattle* (version 7.1 published by Function Industries Press), Wittig reports:

was a flagrant, multi-genre collision involving the nouveau roman, a Dos Passos/Joycean catalog of particulars, the pulp detective/thriller genre, careful historiography, and a full load of what one kind commentator termed "*je ne sais the fuck quoi*."

The nature of the material that ended up in the novel was to some extent determined by the constraints that governed the nature of the data gathered. A writing process guided by different constraints would have generated different types of material from the same group of writers.

A collective narrative project such as *Invisible Seattle* cannot be described solely on the basis of the published work or works that proceed from it. As Wittig reports one of the invisibles remarked on IN.S.OMNIA, the BBS where many of the group's other experiments took place, "There cannot be one, authorized version of the novel, just as no one, neat version of the city is the city." *Invisible Seattle* was both the published versions of the novel and all of the other versions that could have been derived from the same larger pool of story material the invisibles gathered. It was also all of the events and interventions through which the texts were gathered. Any type of collective narrative must be understood not only terms of end results, but also as a performance.

The editorial process of constructing the versions of the novel of Seattle is not described in great detail in *Invisible Rendezvous*, though it appears that the procedures that guided this task were improvised, and not aspects of a preconceived system. In retrospect, we can certainly imagine enhancements to the *Invisible Seattle* project. Twenty years after the writing event, readers can consult only accounts of the project and the various printed editions of the novel. If all of the text involved in the project had been archived electronically, one could conceive of the project as a Nelsonian hypertext, which would include both the end product, the finished versions of the novel, and all of the texts that preceded the final versions. The collectivity of the endeavor could also extend to the editorial process. Given access to all of the source texts, and a system to rearrange the fragments, every reader could remix their own version of the collective narrative.

9. Collective Play and Performance in MMORPGs and ARGs

We can distinguish between collective narrative projects that result in a literary experience that can be revisited and re-experienced by non-contributing readers and collective narrative projects, such as MOOs, that are intended to be experienced as event, game, or performance. In recent years, the most populated and utilized collective narrative systems in digital culture are not works of literature, but massively multiplayer games, virtual worlds, and alternate reality games.

The relationship between games and narrative has been extensively discussed elsewhere. After the smoke of the border skirmish between the narratologists and the ludologists has cleared, it seems reasonable to declare the result an armed truce. While it is generally agreed that games can't be described solely in the terms used to describe narratives, which aren't adequate to describe gameplay, there is also general agreement that narrative is an element of many gaming experiences. Elements of games including backstory, setting, and non-player characters can be described in narratological terms, and games recollected and recounted are themselves narratives.

Massively multiplayer online role-playing games by definition involve collective activity. Although games such as *World of Warcraft* or *Everquest* take place in carefully constructed environments with quests and challenges provided by the game's designers, many of the other characters a player will encounter and perhaps cooperate with in a group or guild are also players. The interaction and dialogue with these other player characters comprises a group performance, each of the players performing a role in addition to playing a game.

In addition to MMORPGs, in recent years virtual world simulations have become increasingly popular. Virtual worlds such as *Second Life* and *There* provide players with avatars, rich environments, activities, and social structures, but they do not provide players with specific quests, challenges, or goals. Gameplay in this context does not consist of achieving objectives laid out by the game designers, but in the development of a distinctive player character and in compelling and meaningful interaction with other players. In *Second Life*, players can additionally develop their own in-game objects, stores and attractions. Other players can then purchase these virtual commodities and services. Linden Labs, the company behind *Second Life*, provides player/developers with 3D modeling software and other tools to create in-game objects, but does not claim ownership of the resulting content. By allowing players to keep intellectual property rights to objects they create in *Second Life*, the game's designers have explicitly acknowledged that *Second Life* is a collective endeavor, that its players are also designers [4].

The notion of play in virtual worlds is distinctly collective, worlds apart from the platform games of yore. The form of play in *Second Life* is closer to the kind of play that children have in a well-equipped sandbox or game of dress-up than it is to *Tomb Raider* or *Pac Man*.

Alternate reality games are another form of collective play that has recently captured a great deal of attention. Alternate reality games such as *The Beast* and *I Love Bees* are meant to be immersive, played both within the network and through other media channels the players might encounter in the course of their

daily lives. Jane McGonigal describes the approach of "The Beast," the first large-scale ARG:

The game called players at home, faxed them at work, interrupted their favorite television shows with cryptic messages, and eventually even mailed them packages full of game-world props and artifacts via the United States Postal System. The Beast recognized no game boundaries; the players were always playing, so long as they were connected to one of their many everyday networks. [27]

The basic approach of the ARG is to breach the ontological boundary between network play and lived reality, helping the players to suspend their sense of disbelief by immersing them in the game. To enhance this sense of ontological fusion, the creators of *The Beast* denied that it was a game. Both *The Beast* and *I Love Bees* spawned large communities of players. One of the compelling aspects of these, and most other ARGs, is that the work of solving them is distributed across groups of users. The motivation of the player involved in the ARG is not an individual reward, but to make a contribution to a collective endeavor. While the storyline of the game is guided by "puppet masters" who write the backstory and puzzles, provide the clues, and prompt the players in a variety of ways, the players experience most of the game as a collaborative hunt for clues that takes place on discussion boards. McGonigal reports that some members of the Cloudmakers, a group of players who coalesced around *The Beast* and figured themselves "a collective intelligence unparalleled in entertainment history," even banded together after 9/11 in an attempt to harness their skills, which had proved adept at solving an orchestrated mystery online, in solving the real crime of the terrorist attack on New York. The players felt so empowered by their experience of solving "The Beast" together that they felt they could together solve any puzzle laid in their path.

The term "puppet masters" implies a different relationship between ARG designers and players than between either computer game designers and players, or between authors and readers. A puppet master causes his puppets to move, and uses them for the entertainment of an audience. In some ARGs the puppet master's actions literally set the players in motion: for instance in *I Love Bees*, the puppet masters sent players rushing to specific phone booths to catch the latest installment of the story. The relationship between the puppet masters and the players is however in reality much more symbiotic than that of a puppeteer and his marionette. If ARGs were mystery novels, the puppet masters would be responsible for authoring the crime, the setting, most of the characters, and the clues. The crucial role of the detective, and the narrative of unfolding the plot, is left to the players. The simultaneity of ARGs further complicates the relationship between puppet master and player. The puppet masters monitor and respond to player discussions and activities as the ARGs unfold. The puppet masters of *The Beast* were shocked at the speed with which the Cloudmakers solved the puzzles of the game. Rather than declaring an early defeat, the puppet masters added more complex puzzles that required cooperative play, and introduced new elements in the story. The plot and progression of an ARG is then derived from a collective process based on a feedback loop between the puppet masters and their players. While the puppet masters have a greater degree of agency, authorship is distributed between them and the players as they perform the game.

10. Conscious, Contributory, and Unwitting Participation

If we view networked literature not only as literary “works” in the traditional book culture sense, but also as literary systems functioning within other systems, then we need to reconsider the connection between authorship and agency. Collective narratives are collective to varying degrees, dependent upon the distribution of agency both to distributed authors and to aspects of the system itself. Collective literary and artistic production in new media ranges from works in which principal authors are equally conscious participants in all aspects of the work’s production, to those in which the contributors are not at all conscious that their activity is resulting in artistic production. We can distinguish three types of participation a contributor might have in a collective narrative project: conscious, contributory, and unwitting.

Conscious participation: Contributors are fully conscious of explicit constraints, of the nature of the project, and of how their contribution to it might be utilized.

Contributory participation: Contributors may not be aware of how their contribution fits into the overall architecture of the project, or even of the nature of the project itself, but they do take conscious steps to make their contribution available to the project.

Unwitting participation: Texts utilized in the collective narrative are gathered by the text-machine itself, and contributors have no conscious involvement in the process of gathering the material.

These three levels of participation are not mutually exclusive, in the sense that one collective narrative project could utilize contributions on all three levels. For instance, in the case of *The Unknown*, the three principle authors were fully conscious participants in all aspects of the project. Certain co-authors were asked to contribute in a limited way, such as contributing to a group writing in a New York bar. While Joe Tabbi and Nick Montfort were aware that *The Unknown* existed and that we were “writing an Unknown scene” they had no conception of how their contribution might be linked into the hypertext as a whole – they were contributory participants. Finally, certain scenes in *The Unknown* were over-writings of other texts, such as a typing test used to gauge the typing speed of temporary employees of a Chicago law office, or a scene from Thomas Kinsella’s translation of *The Tain*. While the resulting texts were without a doubt collaborative, neither the author of the typing test nor Thomas Kinsella were consulted; they were unwitting participants.

The data-gathering safaris described in the production of *Invisible Seattle* provide a good example of contributory participation. Simply by filling out a questionnaire, members of the public were contributing to a collective novel, whether or not they understood how the constraints of the particular set of questions they were answering fit into the evolution of the project as a whole.

Projects based on aleatory elements typically make use of unwitting participants. *The Impermanence Agent* by Noah Wardrip-Fruin et al. [36], for instance, began with a story of loss by Wardrip-Fruin that was then “customized” by material gathered from the browsing patterns of each participating reader. In this case, Wardrip-Fruin and his coauthors were conscious participants by virtue of designing the system and writing the original story, the users of the agent were contributory participants as their process of browsing the web selected the material the agent would then integrate into the story, and the authors of the

web sites that the agent sampled were unwitting participants, having no knowledge that their work was being repurposed in this way.

11. Recent Collective Narratives

Every night for 1001 nights, Barbara Campbell is performing a short text-based work via web video. Her project *1001 Nights Cast* [11] is structured around the frame tale of Scheherazade and 1001 nights. Participants contribute stories through the following procedure: each morning Campbell wakes and scans the headlines for a short phrase to use as a prompt. She then creates a watercolor image of the text of the prompt, which she posts to the site. Reader participants then respond to the prompt, writing a story 1001 words or less in length. Each night Campbell reviews the day’s submissions and adapts one for performance, or, if she has received no suitable submissions, generates a text by other means, such as a Google search. The stories are preserved on the site as a text archive, though the video performance occurs only live, at a scheduled time published on the site. As of August 2nd, forty-two nights into the project, it seems to be going well. Twenty-three different authors have contributed stories. The stories don’t seem to be interwoven beyond the frame tale, so each story stands on its own. Although the editing process is expedited, the 1001 word length—longer than a short story but shorter than a typical short story—is conducive to concise stories with a well-honed sense of economy.

The performances themselves leave something to be desired, at least dramaturgically. The live videos feature Campbell reading the story, but the camera remains tightly focused on her moving lips. The viewer is denied the full range of facial expressions one might expect from a storyteller. Perhaps this choice is meant to reflect on the Scheherazade frame. Perhaps Campbell is denying the viewer her body, just as Scheherazade conspired to use stories to delay King Schahriar’s destruction of her own. On the other hand, Campbell’s choice to restrict the performance to her moving lips might be a reflection on the collective nature of the project itself: these aren’t, after all, Campbell’s stories alone, but have been contributed by others. Delivered in this oracular fashion, the disembodied lips might emphasize the collectivity and anonymity of the oral tradition, which the project emulates. The fact that the videos themselves are not archived but available only as a live webcast similarly echoes the oral tradition. The texts are archived, but to experience the performance, the viewer must be “present” at a scheduled time. The project is an ingenious mix of contributory participation and individual performance.

Mr. Beller’s Neighborhood (2000-present) is one of the most successful online contributory collective narrative projects. The project is conceptually fairly simple; it combines a collection of stories about or based in particular locations in New York with a series of satellite maps of the city [1]. The project includes hundreds of nonfiction vignettes and recollections that the reader may “zoom into” on a satellite map. Users can either locate stories by zooming to a particular location in a particular neighborhood, or can choose stories by sets of topics, such as “9/11 and Its Aftermath,” “On the Subway,” or “Crime and Punishment.” The project uses geographical arrangement in a very powerful way, in the aggregate creating a rich portrait of the characters and zeitgeist of one of the world’s most cosmopolitan cities.

12. Architectures of Participation

As the web moves towards systems of organizing material based on tags and collectively defined “folksonomies,” as access to bandwidth expands, as more different types of media sharing become available, and as web applications become more powerful, collectively written constructive hypertext has become everyday practice on the web. Wikipedia is one prominent example of a constructive hypertext built on open source software and user-contributed content, which every reader has the capability to modify. Tim O’Reilly has described systems like Wikipedia as “architectures of participation,” systems in which “a grassroots user base creates a self-regulating collaborative network” [17]. While it is not an open source project, Flickr, an online photo-sharing application and community, provides another example of a successful architecture of participation. Flickr and Wikipedia are examples of projects that, by virtue of flexibility, openness, and extensibility, have enabled interested user communities to develop and repurpose rich pools of shared information. Wikipedia and Flickr may offer some insight into the potential ramifications of the next generation of web applications and sharing methodologies on the development of narratives produced by collective activity.

In only four years, the free encyclopedia project Wikipedia has expanded from one entry to 1.5 million articles in ninety-two active language editions [5]. Wikipedia forked from two antecedent projects, Nupedia, which lasted from 2000 until 2003, and GNUpedia, which was conceived by Richard Stallman in 1999 and launched in January 2001, but which fizzled shortly thereafter. The difference between Wikipedia and its immediate predecessor Nupedia offers one compelling secret to Wikipedia’s phenomenal success:

Nupedia was characterized by an extensive peer review process designed to make its articles of a quality comparable to professional encyclopedias. Nupedia wanted scholars to volunteer content for free. Before it ceased operating, Nupedia produced 24 articles that completed its review process . . . [3]

While Nupedia shared the same idealistic central mission as Wikipedia, to build the best possible free encyclopedia on the internet, it failed to trust the collective intelligence of the network. The developers of Nupedia wanted all of the articles on the site to go through a rigorous peer review process. A Ph.D., volunteering his or her time and expertise, would ideally have vetted each article. One reason that Stallman others launched the GNUpedia project was that they thought Nupedia’s methodology contrary to open-source ideology. Open source methodologies posit everything as a draft in progress, open to revision. A centralized authority does not approve projects before they are launched, but rather decentralized authority improves them constantly. When Larry Sanger proposed that Wikipedia be launched as a wiki-based mechanism to begin articles that would later undergo the peer-review process, they almost immediately found an active and engaged community willing to contribute and more than willing to critique and review, and furthermore actively revise articles that they find inaccurate or incomplete. Wikipedia ultimately does have a peer review process, but the only necessary qualifications for reviewers are an interest and a willingness to act.

Wikis have anarchic power structures, and before Wikipedia, many feared that such a project would be prone to amateurism, hucksterism, and vandalism. The logic ran that given a system that

anyone could access, write to, and furthermore overwrite, the darker angels would have their day, and the project would quickly devolve to graffiti. While Wikipedia is in fact susceptible to vandalism, and is in fact mostly written by amateurs, it turns out that a large enough group of amateurs, passionate about the topics they know and care about, tends to trump both inaccuracy and vandalism over time. Spam on Wikipedia is quickly removed, and articles that are vandalized are quickly repaired. Each page on Wikipedia includes a link to a discussion forum for that particular page, where interested parties can, and typically do, debate perceived inaccuracies and build consensus about the content of the article, and anyone and any time can jump in and make edits they perceive necessary.

So how does anarchy govern itself? One of the strengths of Wikipedia is that it has a clearly defined central mission, and that the principle functions that the Wikipedia community plays in fulfilling that mission are also clearly defined. The Wikipedia page “Wikipedia Community” explains:

The community’s role, as some kind of nebulous science-fiction super-entity, is to:

- Organize and edit individual pages
- Structure navigation between pages
- Resolve conflict between individual members
- Re-engineer itself—creating rules and patterns of behavior [6]

This stops just short of saying “the community’s role in Wikipedia is to do *everything*,” and indeed there are things that the community is not expected to do, such as funding, hosting, and maintaining the servers. But Wikipedia offers the collective a great deal more responsibility than virtually any other historical reference project. By making the distribution of power clear, by establishing collective responsibility, and by empowering literally anyone to not only opine, but act in the formation of the knowledge base, Wikipedia has managed to avoid the bureaucratic bottlenecks that have plagued similar endeavors in the past.

Although it is an encyclopedia, and therefore a project committed to knowledge in the most general sense, the specificity of Wikipedia’s goal, “to create and provide a freely licensed and high quality encyclopedia to every single person on the planet in his or her own language,” [34] enables the formation of a kind of intentional community; the central mission moderates all conflicts and debates that occur on Wikipedia.

“Wikipedia Sociology” [7] describes various forms of “factionalism” within the Wikipedians, including Deletionism vs. Inclusionism and Eventualism vs. Immediatism. Given the collective responsibility for organizing the world’s knowledge, the Wikipedians’ differing approaches to methodology have taken the shape of competing ideologies. In brief, the Deletionists consider the role as caretakers of Wikipedia to be the deletion of any scrap of erroneous information, favoring objectivity and conformity, while the Inclusionists favor the idiosyncratic and subjective. The Eventualists believe that short undeveloped entries (stubs) should be given time to develop through future intervention into fully developed and accurate Wikipedia articles, while Immediatists believe that each article should be published in a fully-fleshed form, with only minor revisions necessary to bring the given

article to complete fulfillment. Much of the debate that takes place in the discussion forum attached to each individual article relates not only to the content of the articles themselves, but also to these differing perspectives on how to edit an ideal encyclopedia.

The success of Wikipedia suggests that large-scale collectives with a clearly defined central mission, clearly defined roles for contributors, and an active and fervently deliberative community structure can develop more useful resources than traditional hierarchical approaches to managing knowledge. In the case of Wikipedia, the technology of the wiki enables this knowledge community to flourish by empowering every individual reader to act on behalf of the collective in a structured way.

13. Procedural Collectivity and Play: Flickr

In the past several years, web-based social networking tools have rapidly evolved and diversified, moving from an online dating service model to one focused on more general social activities. While sites such as Six Degrees, Friendster, and Tribe focus on purely social activities, sites such as Flickr, Del.icio.us and CiteULike utilize the architecture of a social networking system to enable the sharing of more specific types of information and media such as photos, web bookmarks, and notes on academic papers. The idea of the social network in these cases is not simply to secure an automatic introduction to the friends of your friends, or to pick up a hot date, but to share art and knowledge, to contribute to and benefit from a specific collective endeavor.

Flickr, a web-based photo management and sharing application and community, is a demonstrative example of the result of combining a powerful database application, a user-defined tagging system, and community tools, with an interested, variously skilled, and active user base. Flickr is oriented both towards enabling its users to store and share their photos and to fostering micro-communities around specific photographic projects. Flickr groups are oriented not only towards social activity and to sharing knowledge about specialized topics, but also towards collective art projects defined by specific constraints that range from simple to complex. There is a “squared circle” group dedicated to a group pool of photos of circles within squares. There are various “a day in the life” projects, in which participants document one particular day in quotidian detail. There is a “photo hunt” group, in which participants are provided with a list of words, some concrete and some abstract, to interpret in a series of individual photographs. The possibility for constrained photography projects is virtually endless, and Flickr members seem intent on creating a group for every constraint they can think of.

In “Feral Hypertext: When Hypertext Literature Escapes Control” Jill Walker describes the tagging systems used by Flickr, CiteULike and Del.icio.us as feral hypertext:

This doesn't mean there are no structures or rules. Quite the contrary: these systems work because they have simple but flexible ground conditions that establish environments that make emergent organization instantly visible. [35]

Walker argues that tagging systems allow for emergent connections. In addition to groups that Flickr users consciously participate in, as a result of the procedure of tagging photos, they also create associations with groups of photos taken by other Flickr users. This is a form of contributory participation. Flickr recently upgraded their tagging system to include “clustering,” a hypertext system that organizes the search tag results by the

sorting them into clusters based on the other tags on the same photos. The result is more finely tuned differentiation of categories, based on a conceptually simple process. One compelling aspect of tagging and the clusters of similarly tagged photos that emerge across the Flickr network is that individual Flickr users aren't consciously thinking about forging connections with others. The first purpose of tagging photographs for individuals is to organize and make more accessible their own collection of images. In doing so they however simultaneously enrich the Flickr database as a whole. Tim O'Reilly describes this characteristic as a distinctive feature of architectures of participation:

This architectural insight may actually be more central to the success of open source than the more frequently cited appeal to volunteerism. The architecture of Linux, the Internet, and the World Wide Web are such that users pursuing their own “selfish” interests build collective value as an automatic byproduct. [29]

The name of the company that developed Flickr prior to Yahoo's recent purchase of the service was Ludicorp, who describe their mission as “groupware for play.” Flickr has indeed developed architecture of participation based one part on the structured play of groups and another part on the emergent folksonomy of tagging.

14. Architectures for Collective Narrative

After they had completed the *Invisible Seattle*, in 1987 the invisibles laid out *The Plan for Invisible America*. They imagined expanding upon the vision of *Invisible Seattle* and, taking advantage of network computers, conducting a collective narrative experiment on much larger scale. The plan was epic in scope:

First, it presents three years' worth of diverse activities and events—research, writing, programming, publicity, performance—as equal parts of the same project. There is a book in the mix, but it is only a small element. Then it shows the project interacts with different sectors of the audience in different ways encouraging them to be authors, game players, and spectators. [37]

Invisible America never got past the conceptual stage, and a large-scale narrative of such scope, at least one with a literary outcome, has never been attempted. At the time, the project as laid out in *The Plan for Invisible America* would have required a great deal of funding to pull off. Existing computer and network technologies at the time were furthermore extremely rudimentary in comparison to contemporary technologies.

This essay has to a great extent been inspired by the thought experiment of *Invisible America*. What may have seemed outlandish in the 1980s is merely an extrapolation of existing technologies and methodologies today. One can imagine a writing community with robustness of Wikipedia, dedicated to a collective vision of writing a novel that is in effect many novels with interchangeable parts, written according to sets of specific constraints to ensure a degree of formal unity, and tagged with metadata that would make it possible to easily remix novels in thousands of structured configurations. Such a project would be performance, game, and literature. What we do today with our collective references and photographs we could soon do, together, in collective narrative. It is well within our reach.

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